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ABSTRACT

A study was conducted at Saddleback College to evaluate the retention, achievement, and satisfaction of students enrolled in the college's telecourse program. The study sample included all telecourse and on-campus students enrolled in courses in American government, human behavior, music, and marine biology in spring 1983. Study methods, which included student surveys and pre- and post-testing of subject mastery, focused on developing comparative profiles of students who finished the telecourses and those who did not; comparing the achievement of telecourse and on-campus students; and assessing the satisfaction of telecourse completers. Study findings included the following: (1) there were no differences between telecourse completers and non-completers in 21 of 26 questionnaire items regarding personal and academic characteristics (e.g., sex, age, marital status, ethnicity, college and high school grades, and occupational status); (2) in comparison to non-completers, completers more frequently preferred to study alone, were taking the course for degree requirements or career advancement, and had previously taken telecourses; and less often had problems taking courses on campus; (3) there was no significant difference in the post-test scores of the telecourse and on-campus students for any course; and (4) telecourse completers expressed overall satisfaction with their experience. Questionnaires are appended. (LAL)

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EVALUATION OF THE TELECOURSE PROGRAM AT SADDLEBACK COLLEGE: STUDENT RETENTION AND ACADEMIC ACHIEVEMENT

Jeanne Smith

A MAJOR APPLIED RESEARCH PROJECT
PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF EDUCATION

JC 840 059

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Abstract of a Major Applied Research Project Presented to Nova University in Partial Fulfillment of the Requirements for the Degree of Doctor of Education

EVALUATION OF THE TELECOURSE PROGRAM AT SADDLEBACK COLLEGE STUDENT RETENTION AND ACADEMIC ACHIEVEMENT

By

Jeanne Smith

August, 1983

This study evaluated three aspects of the telecourse program at Saddleback College during the Spring 1983 semester: (1) student retention, (2) student achievement, and (3) student satisfaction with the telecourse program.

The sample included all telecourse and on-campus students enrolled in: (1) Political Science 1--American Government, (2) Psychology 33--Understanding Human Behavior, (3) Music 20--Topic Music, and (4) Marine Science 175--Oceanus.

A questionnaire developed to determine the profile of each telecourse enrollee, was given to all telecourse enrollees at the Spring 1983 semester orientation meeting. Arrangements were made to allow any student who could not attend the orientation to complete the questionnaire any time during the first two weeks of the semester. One hundred ninety-eight questionnaires were completed.

The returned questionnaires were separated at the end of the semester by finishers and non-finishers. In order to evaluate student achievement, a test for each course was developed to be

given as a pre- and post-test. This test was developed by the course instructor in collaboration with the author. In each course, the same instructor taught both the telecourse and the parallel on-campus course. Outlines of each telecourse and its parallel on-campus course were inspected to insure that they were identical.

The quasi-experimental method was used to test the hypothesis: "There is no significant difference between the post-test scores of the telecourse students and the parallel on-campus students." This hypothesis was tested using an analysis of covariance at a 0.05 level of significance.

A second questionnaire was developed to assess the satisfaction with the telecourse program as perceived by those students who finished. This questionnaire was given to all telecourse students with the final examination. Each answer was given a weighted value, and the mean score for each statement was computed.

The major findings of this study include:

Student Retention. Students over thirty-three years of age who had taken over thirty college units have a higher rate of completion than other students. Students who completed the courses were more likely to be taking the course for degree requirements and were more likely to have declared a major than those who failed to complete the courses. The most dramatic finding was that fifty-eight percent of those who had completed a questionnaire finished the course in which they were enrolled, but only six percent of those who did not complete the questionnaire finished the course in which they were enrolled.

Student Achievement. The analysis of covariance indicated that there was no difference in the amount of learning that took place in the telecourses compared to the parallel on-campus courses.

Student Satisfaction. Students were generally satisfied with the telecourse they had taken.

Assessment of the telecourse program at Saddleback College led to the conclusion that students are satisfied with the program and are learning as much as on-campus students. Younger students with little experience at taking college courses, should be advised to take on-campus courses instead of telecourses. An extremely low percentage of students who failed to complete the preliminary questionnaire, primarily because they declined to attend the voluntary orientation meeting, completed the class in which they enrolled. While they are not for everyone, telecourses should continue to be offered as an alternative mode of instruction.

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CHAPTER I

THE PROBLEM

Introduction

Perhaps the most important challenge of the community college is to promote the maximum development of each student's capabilities. To meet this challenge alternate methods of instruction must be devised (Whisnant, 1978). Students learn in a variety of ways and no particular teaching method will meet every student's needs (Roueche, 1969). Consequently, many community colleges have shifted away from using the traditional lecture method as the only approach to teaching. "Underlying the efforts to succeed at each curricular area was a veiled motto: innovate, innovate, innovate--change is progress" (Whisnant, 1978:2). "Major pressures for change come from nontraditional groups of students new to higher education: those over 25 (who already outnumber students under 25), women with families, minority students, and students from nonacademic backgrounds" (Richardson, 1981:2). One of the results of this pressure to change has been the increase in the use of television as an alternate means of instruction. It provides opportunities for students unable to attend on-campus courses due to the constraints of job, family, illness, disability, or geographic distance.

While much of the community college's success can be attributed to this spirit of innovation, Suzanne de Lesseps (1976) noted that the public tends to blame innovative teaching for the decline in students' basic skills. She also asserted that the public equates a return to basics with a decrease in innovative teaching. The days of innovation for innovation's sake are gone. "Creative change must be more calculated and deliberate than ever before, and a thread of tradition must be maintained to balance innovation" Whisnant, 1978:3). Thus, whenever a new method of instruction is used, it is important to compare the students' success to that achieved in a similar situation under traditional lecture formats.

Such analyses have been conducted continuously since the origin of telecourses, and telecourses have generally been found to be very competitive with conventional classroom instruction. When the first results of these analyses became known, some telecourse educators voiced euphoric projections such as "In the opinion of some college educators experimenting with programmed and automated instruction, the classroom will be obsolete as a locus of instruction within the next fifteen years" (Hoban, 1963:97). Fifteen years have, of course, elapsed since that was written, and the prediction has not come to pass. The reason can easily be found in the records of the continuing comparisons between telecourses and traditional courses: "A common report among experimenters is that they find more variance within than between media--meaning that learning seems to be affected more by what is delivered than by the delivery system" (Schramm, 1977:273). In other words, good telecourses are excellent teaching vehicles; poor telecourses are

inferior to the normal classroom environment. Consequently, every institution offering a continuing program of telecourses has a responsibility to analytically evaluate its program periodically to determine its effectiveness (Schramm, 1977).

Although telecourses generally compare favorably to traditional courses with respect to student achievement, the comparison is distinctly unfavorable with respect to student retention (Munshi, 1980). She found telecourse attrition rates much higher than overall campus attrition rates nationwide, and particularly in California. Smith (1982) found telecourse attrition rates at seven California community colleges approximately double campus averages. Because of those high attrition rates, an instrument needs to be developed to pinpoint high risk telecourse students. The very nature of telecourses allows for little teacher-student interaction and even less student-student interaction. Students who need this type of interaction may have difficulty with telecourses. While studies have been done to determine the profile of the students who finish, no studies have been done to compare that profile to the profile of those students who fail to finish.

Statement of the Problem

Almost from their inception, telecourses have been plagued with two problems, one real and one perceived. The first problem is the high attrition rate which can reach twice that of on-campus courses (Munshi, 1980). The second problem is that telecourses, despite academic studies indicating the contrary, are perceived by some as "easy," with the view that less is required of the students both quantitatively and qualitatively (Wolfgang and Dowling, 1981).

These problems have been discussed at some length by the faculty of Saddleback College. At Saddleback College the telecourse attrition rate is almost twice that of on-campus courses (Smith, 1982). This has caused many faculty members to question the effectiveness of telecourses. A study needs to be done to analyze factors contributing to telecourse attrition and to develop a survey instrument for predicting the retention probabilities for individual students. This survey instrument could then be used to direct counseling to students shown to have a poor retention probability.

Many faculty members at Saddleback College feel that telecourses are not comparable to parallel on-campus courses. They feel that the telecourse format cannot possibly be as good as on-campus instruction because telecourse students spend only one-third as much time viewing a course as they would spend attending an on-campus course. Many studies have compared telecourses to parallel on-campus courses, but neither method has been shown to be generally superior to the other (Schramm, 1977). That is, a well-designed and implemented telecourse can be better than traditional classroom instruction. Unfortunately, a poorly designed and implemented telecourse is usually worse.

It is for these reasons that a study of retention and achievement of telecourse students at Saddleback College is necessary to evaluate the current telecourse program and to provide guidance for future improvement.

Background and Significance

Television courses have been used as a method of instruction in higher education since the 1950's. The first courses were done live with instructors lecturing in front of a camera. These courses were not especially successful because television is not the proper medium for lecture (Shulman, 1981). Today, the television presentations are much more elaborate: telecourse crews travel all over the world to gather footage for courses. In addition, modern telecourses are more than television shows. They also include texts and study guides to supplement the video presentation (Shulman, 1981). Most courses now include quizzes to aid the student in studying for examinations (Jelen, 1977).

Telecourses generally fall into one of two categories. Many telecourses are especially produced for education with accompanying printed material. However, many other telecourses, called "wrap-around" courses employ shows produced for the general television audience with special printed study material written around the program. Students may view these shows during their regular showing, and receive credit by completing the study materials (Munshi, 1980). Examples of shows that were also wrap-around telecourses include "The Adams Chronicles" and "The Ascent of Man" series shown on commerical television, and the "Masterpiece Theater" series shown by the Public Broadcasting System.

Colleges tend to resist telecourses for two principal reasons: (1) lack of respect for such instructional methods, and (2) lack of support from the faculty (Hersfield, 1980). Surveys taken in 1979 asked colleges whether or not their faculties were supportive

of telecourses. Forty percent of the colleges responded that a lack of faculty support prevented the use of telecourses (Dirr and Pedone, 1979). A study done by Dirr and Katz (1981) found that one of the major barriers to the use of television for instruction at some colleges was the lack of faculty support. Hershfield (1980) also found faculty unwilling to try telecourses. He concluded that most faculty regarded television as second-class compared to on-campus instruction.

According to Brock (1980), there were over 100 new telecourses produced and marketed nationwide by 1979, and almost one-half million people were enrolled in telecourses in that year. This growing interest in the use of television by colleges is due to several other factors affecting education. These factors include the increasing median age of Americans, the energy crisis, and the wide acceptance of television as an entertainment medium.

The United States has become an aging society. Today the median age is 30 years and by the year 2030 approximately twenty percent of the population will be 65 or older. As the percentage over 65 increases, the percentage consisting of 18-25 year olds that have traditionally dominated student populations will decline (London and Ewing, 1980). More of these older students are women and part-time students, who demand more time flexibility than their younger full-time students counterparts. Many of these students have found night course selection limited, and are trying telecourses as an alternative (Mondale, 1977).

Another factor that has impacted the college curriculum is the energy crisis. It has increased the cost of transportation, thus,

telecourses appeal to many who must commute long distances to school (Brock, 1980).

According to Helmantoler (1978), the average working adult enjoys fifty hours of leisure time a week. Twenty-two hours of this leisure time is spent watching television. Over ninety-seven percent of all U.S. homes now have at least one television set. Helmantoler felt that these facts, combined with the evidence of learning success through television, show great potential for colleges.

In a time of declining enrollment, colleges are attempting to develop alternate delivery systems to counter this trend (De Chenne, 1980). Faculty are being oriented and conditioned to use television as a means of teaching, and administrators are being trained to manage telecourses successfully (Mc Cellan, 1980).

Major Issues and Research Questions

The principal issue in this study was an evaluation of the telecourse program at Saddleback College. This study involved two aspects of student performance: student retention and student academic achievement.

The high attrition rate among students enrolled in telecourses is a problem nationwide and particularly in California (Munshi, 1980). Saddleback College is no exception. Last year, almost sixty percent of the students who enrolled in telecourses failed to complete these courses (Smith, 1982). Despite this, as far as can be determined, no studies have been done either at Saddleback College or at any other institution to determine the profile of the

students who fail to finish. This study attempted to answer the following question:

> What is the profile of the telecourse students who finish compared to those who fail to finish?

Telecourses have proliferated since the 1950's. Recently former ambassador Walter Annenberg gave $150 million dollars to the Corporation for Public Broadcasting to create new telecourses (Richardson, 1981). As a result of this growing interest in the use of television as an alternate method of instruction, college membership in telecourse consortia has increased (Richardson, 1981). Most of these consortia not only offer telecourses but produce and market them as well. Therefore, the number of telecourse producers is also increasing. Because there is no central agency to evaluate and approve telecourses, this burden falls on the users. Consequently, colleges using these telecourses should periodically evaluate them to determine their effectiveness on the local student population.

While Saddleback College has offered telecourses every semester since 1974, they have never been evaluated to determine their effectiveness on the population they serve. Many of these courses have parallel on-campus courses, frequently taught by the same instructor. Thus, comparisons of learning levels between the two types of courses can be made with relatively good validity. This comparison is particularly important at Saddleback College because the majority of the telecourses are transferable to four-year universities and have been approved by the faculty as equivalent to

the parallel on-campus courses. This study tested the following hypothesis:

> There is no significant difference between the post-test scores of the telecourse students and the parallel on-campus students.

Purpose

The purpose of this study was to evaluate the telecourse program at Saddleback College. Three aspects were addressed:

1. Student Retention. This study compared the profile of the students who finished telecourses to the profile of those students who did not.
2. Student Achievement. Student achievement was compared between telecourses and parallel on-campus courses.
3. Student Satisfaction. Satisfaction of the telecourse program as perceived by those students who finished was assessed.

Limitations and Assumptions of the Study

It was assumed that the outlines for each telecourse and its parallel on-campus course were the same.

It was assumed that there were enough responses on the questionnaire to differentiate telecourse finishers from non-finishers. It was also assumed that telecourse students answered the questions honestly even though their names were on the questionnaire.

Because students were not informed that the pre-test would be given as the final exam, it was assumed that pretesting at the beginning of the semester would not produce a Hawthorne effect on the students. While the same test was used as both a pre- and

post-test, it was assumed that any practice effect making students more proficient on the post-test would be the same for both groups. It was also assumed that the locally prepared tests would provide a valid measure of student achievement. It was further assumed that variations in instructor ability were effectively removed by evaluating only pairs of courses (one telecourse and one parallel on-campus course) taught by the same instructor.

This study was limited to only those student enrolled in telecourses at Saddleback College in the Spring 1983 semester. It was assumed that this group of approximately 180 students would be typical telecourse enrollees.

CHAPTER II

REVIEW OF THE LITERATURE

Achievement in Telecourses

As our society changes, needs change. Today the average person changes careers at least twice during a lifetime. Women, even with children, are pursuing careers outside the home. Students in postsecondary institutions are older than a decade ago, and more likely to go to school part-time (Carmichael, 1981).

> Also true is the fact that traditional patterns of college attendance are not always appropriate for adults in a society that provides information freely to its inhabitants from many different sources but, at the same time, requires an increasing amount of certification for the acquisition of knowledge to be recognized (Munshi, 1980:1).

One of the social responses to these facts has been the growth of telecourses.

Colleges and universities have used television as a mode of instruction since the 1950's. Many of these early television courses failed due to (1) programs shown at times inconvenient for the student, (2) a lack of courses for credit, and (3) poor choices of locale: telecourses must draw from a heavily populated region in order to net a sufficiently large student audience (Shulman, 1981). However, these early problems have generally been overcome, and today telecourses are shown weekly in a large number of metropolitan areas to half a million students across the country.

Researchers have studied the effectiveness of telecourses since their inception. Literally hundreds of studies comparing the results of telecourses to parallel traditional courses have been conducted. As a significant volume of the studies has become available, numerous authors have attempted to collect and summarize their results. Due to the wide diversity of the studies, a certain variance in results is unavoidable. Despite this study-to-study variation, the literature surveys have generally agreed on one basic conclusion: other factors being equal, telecourses are at least as good as traditional on-campus lecture-format courses. The development of this conclusion is outlined in the following summary of relevant experimental studies and literature surveys.

Studies done in the 1950's and 1960's found that students can learn as well via television as in a conventional classroom (Luskin and Zigerell, 1978). In a study conducted at the University of Detroit, Bundy (1960) found that telecourse students learned Spanish verbs as well as on-campus students.

The Chicago TV college started in 1956 with a grant from the Fund for Advancement of Education. This college began as a three year experiment of the Chicago City Junior College in offering college courses leading to the associate of arts degree. During the first three years, achievement comparisons were made between telecourse and parallel on-campus courses. In most cases no significant difference was found betweeen the two groups. In nine cases there was a significant difference: seven favoring telecourses and two favoring on-campus courses (Erickson and Chausow, 1960).

Kumata (1960a) conducted an experiment with a course in basic advertising at the college level. This experiment was repeated the following semester. He compared achievement in a telecourse to that in a parallel on-campus course. In the first experiment trial, the on-campus class did significantly better than the telecourse. The second experiment trial, however, showed no significant difference between the two groups.

In his review of research on instructional television, Kumata (1960b) found that in most cases there was no significant difference between telecourses and on-campus courses. However, his review concluded that TV students did not do as well as on-campus students in the second semester of a year-long sequence where no difference had been found the first semester.

Schramm (1962) reviewed one hundred studies comparing college level telecourses to equivalent on-campus courses. Eighty-four studies found no significant difference between the two methods of delivery. In three cases telecourses were significantly more effective and in thirteen cases they were significantly less effective than on-campus courses. Thirty-two studies compared telecourses to on-campus courses by subject matter. He found that in only one case (science) was the telecourse less effective. The majority (21) of cases showed no significant difference.

In a classic study published in 1963, Stickell evaluated a large number of these studies against a set of exacting experimental evaluation criteria. Of the two hundred fifty studies that he reviewed, he found only ten that satisfied his criteria. In all ten cases, no significant difference was found between telecourses and

parallel on-campus courses. In twenty-three other studies that he found marginally acceptable because they contained minor design flaws, only three showed statistically significant differences--all in favor of the telecourses.

In a later review, Chu and Schramm (1967) reviewed over two hundred studies comparing telecourses to on-campus courses in college level courses. Again, the majority (152) of the studies concluded no significant differences. Twenty-two studies showed telecourses to be more effective and twenty-eight showed them to be less effective than on-campus courses.

Purdy (1978) came to the conclusion that research has found that telecourse students learn at least as well as on-campus students. Recently, individual telecourses have been compared to the same on-campus course by Agler (1976), Purdy and Icenogle (1976), and Dallas County Community College District (1977). In all cases, researchers have come to the same conclusion: telecourse students have the same or a higher achievement rate than the on-campus students.

In her study, Agler (1976) concluded that in English 101, telecourse students obtained significantly higher scores than did on-campus students on a required compostion scoring in three areas: (1) organization of the entire paper, (2) organization of individual paragraphs, and (3) overall quality of the paper. In the other scoring areas (spelling, mechanics, diction, usage, and sentences), no significant differences were encountered between the two groups. Agler further noted that both groups improved significantly from the beginning to the end of the semester.

Mount and Walters (1980) compared the performance of students in a televised introductory psychology course to that of students in a parallel on-campus course at Mountain View College (Texas). They found that the telecourse studerts achieved signficantly higher test scores even when the scores were adjusted for age. They concluded: "These results are surprising, in that, students in the traditional method appeared to have the advantage of more lecture and review relevant to the test questions" (Mount and Walters, 1980: 49-50).

Hult (1980) conducted a study to compare the effectiveness of telecourses to on-campus courses and to examine the effect of instructor visits to TV courses. The study involved ninety-six graduate students enrolled in a basic course in human development at the University of South Carolina. The subjects were divided into three classes: (1) TV without instructor contact, (2) TV with instructor contact, and (3) regular on-campus class. Results indicated that learning did not differ significantly between the three modes of instruction. The author concluded:

> This finding seems particularly supportive of the claim that TV is an effective medium for college and graduate level instruction since in this study comparisons of TV and non-TV groups were based on tight control for such variables as instructor, course materials and course content, and examinations (Hult, 1980:7).

Schramm (1977) summed up the research on the achievement in telecourses versus on-campus courses by saying:

> We conclude from the evidence that, overall, there is no basis in the research for saying that students learn more or less from television than from classroom teaching. This does not mean that under some conditions of teaching some students do not learn more of certain subject matter or skills from one medium or channel of teaching than from the other. But the results of the broad comparisons say that there is, in general, no significant difference (Schramm, 1977: 28).

Attrition

On-Campus Courses

Student attrition has always been of concern to academic administrators because it indicated students dissatisfied with the courses in which they have registered. In recent years, however, a second influence of attrition has attracted increasing attention: loss of revenue. Most colleges are dependent upon student fees or state appropriations on a per student basis. When student attrition is high, colleges have a more difficult time meeting expenses (Summerskill, 1962).

In 1976, California passed the Proposition 13 Property Tax Initiative that has had the effect of reducing the tax support of all types of public schools. California community colleges have begun to feel the financial strain of revenue lost from the passage of Proposition 13, and high student attrition agravates this problem. For example, at American River College (California), student attrition for the academic year 1978-1979 cost the college over 2.5 million dollars in state funds (Rasor, 1980). Total student body attrition exceeding thirty-three percent at Ohlone College (California) not only resulted in lost income to the college, but also disrupted many programs being offered (Baker, 1980). A large state university calculated that the institution's forty-one percent attrition rate over five years cost the university an annual loss of tuition revenues approaching ten million dollars. Because that university could no longer afford such a loss of income, there existed an urgent need to study ways of preventing attrition (Jackley and Henderson, 1979).

Colleges today are experiencing a decline in enrollments which has also increased concern about the causes of and cures for student attrition. The Carnegie Commission (1980: 11) reporting on college enrollments stated:

> Overall, the traditional college-bound group of eighteen to twenty-four year-olds will decline by twenty-three percent by 1997. *Using such projections, the Council concluded that* enrollments will remain relatively constant until the Fall of 1983 and then decline through the Fall of 1988. They will remain relatively constant through the Fall of 1990, and then decline even more sharply from 1991 through 1997. Thus colleges in general have about three more full academic years to prepare themselves for the onslaught of the first slide.

Jackley and Henderson (1979) suggested that less money could be spent on student recruitment if administrators spent more money on student retention. They claimed that retaining students until graduation not only helped to maintain the quality of instruction but also saved institutional, state, and federal investments.

As a result, a number of researchers have sought to determine why students drop classes. Thompson (1969) found that most students dropped only one class, and that age and sex were not related to withdrawal. He concluded that the major reasons for dropping were: (1) job conflict, (2) lack of interest, (3) wrong program, (4) academic difficulty, and (5) conflict with the instructor. In later studies, Baratta (1977) and Friedlander (1981) found the situation little changed. They concluded that most students withdrew from classes for academic reasons, such as: (1) found the course too difficult, (2) got behind in work, (3) lost interest, or (4) had too many course units.

Broadbent (1975) studied student class attrition at Leeward Community College (Hawaii). The most frequent reasons students

gave for withdrawal were (1) schedule conflict, (2) fear of a failing grade, (3) inadequate academic background, and (4) dissatisfaction with instruction or course content. These conclusions were supported by a similar study at Roane State Community College, Tennessee (1975).

The Texas Education Agency (1977) studied withdrawals at ten Texas community colleges in the Fall 1976. The most frequently given reasons for class withdrawals were (1) grade problems, (2) a heavy course load, (3) job conflict, and (4) dissatisfaction with instruction. In 1978 Daly and Bateman questioned each student who had dropped at least one class at Santa Ana College (California). While the most frequent single reason for dropping was job conflict, the major reasons were related to the academic program.

Hunter and Sheldon (1979) studied California community colleges and found the major reason for withdrawing from a class was job conflict. While this reason was one over which the college had no control, other reasons given by students for withdrawing from a class were instruction-related. The instruction-related problems most cited included: (1) fear of receiving a failing grade, (2) inadequate prerequisite instruction, (3) dissatisfaction with course content, and (4) failure to keep up. These same reasons were also reported in studies conducted by Matley (1978) at Ventura College (California) and by Woods (1978) at Kalamazoo Valley Community College (Michigan). In all cases, students' decisions to withdraw from college classes were primarily instruction-related. "The finding that many students drop classes for instructional-

related reasons indicates that educators are in a position to influence considerably the rate of attrition from classes at their institution" (Friedlander, 1981:1).

Studies have also compared causes of student withdrawal from college to the causes of withdrawal from classes. Rasor (1980) concluded that students who withdraw from college do so mainly for nonacademic reasons, while most of those who withdraw from a class do so because of academic difficulties. Daly and Bateman (1978) supported these conclusions by noting that most students left college for financial reasons and/or to take full-time employment. Only a small fraction of the students queried by Daly and Bateman listed academic reasons as the cause of their withdrawal from school. Daly and Bateman suggested that the greatest effort on the part of the college should be directed toward reducing class withdrawals, since most school withdrawals were for nonacademic reasons over which the college has no control.

Wetzel (1977) found that the major reasons for students leaving Delaware County Community College were: (1) home or work obligations, and (2) financial problems. Students questioned were generally happy with college and expected to return at some future date. Bower (1977) reported these same conclusions in Boulder, Colorado. At Allegany Community College (Maryland), Anderson (1976) concluded that there were three major reasons that students left college: (1) financial, (2) entered job market, and (3) achieved educational goal. The finding that nonacademic reasons--financial problems, job conflicts, and program completion-- were the major factors in student withdrawal from college was also reported by Welch (1980).

Jackson and McMillian (1976) studied student attrition at Essex County College (New Jersey) and found that students left because of family problems, disappointment with their program of study, or financial problems. They concluded that, in general, the highest attrition rate occurred among younger students after their first year of college.

California State University at Northridge developed an enrollment projection model. This model included all undergraduate students who entered during the Fall 1971 through Fall 1977. The study revealed "that fields with declining enrollments (e.g. Arts, Humanities) generally revealed the weakest persistence rates and fields with growing enrollments the strongest" (Newlon and Gaither, 1980:245). Thus, the schools that can least afford student attrition are experiencing the most. Newlon and Gaither hypothesized that students in certain schools (Business, Engineering, Mathematics) have a better chance of employment upon graduation and so have a higher persistence rate.

Lightfield (1974) has added an optimistic note to the study of student withdrawal by observing that many students do come back. His results showed that most students will return at a later time to complete their educational goals. Bossen and Burnett (1970) reported that nearly half of all withdrawing students return to college at a later date. It should be noted also that many community college students have as their educational goal, the completion of only one of several classes and never intend to earn a degree. Thus, these students are psychologically not "drop-outs" because they do not leave school without completing their personal educational goals.

Telecourses

Even though researchers have found that telecourse students do at least as well as on-campus students, they have also found a much higher attrition rate in the telecourses. Agler (1976) reported significant differences in the withdrawal rate between the two English classes she examined. Fifty-two percent of the telecourse students withdrew in contrast to only thirty percent of the on- campus students. Duby and Giltrow (1978) concluded from their study that a typical college telecourse has a sixty percent withdrawal rate. Their figure included all students who received "no-credit" grades and incompletes as well as withdrawals. Munshi (1980) found, in general, student attrition in telecourses was higher than in on-campus courses. The highest attrition rates were in California. In California, students enroll in a large number of courses, then drop those in which they were less interested. Munshi attributed this phenomenon to the fact that the courses are free. Smith (1982) evaluated attrition at seven southern California community colleges and found telecourse attrition rates to be approximately double those of the total student body.

Factors Associated with Attrition

No studies have been done to date to determine a profile to predict student retention in telecourses, however, many such studies have been done on retention of students in college. Summerskill (1962) and Pantages and Creedon (1978) conducted large reviews of literature on college attrition and concluded that no single factor was the cause of attrition: factors contributing to

attrition and retention are complex and dependent upon the type of institution. In the following sections, a summary of the literature relating to the different factors found to significantly affect retention is presented. Unless otherwise noted, the studies all represent retention in college rather than retention in a particular class.

Demographic Factors

Results concerning the effect of demographic factors such as age and sex on student attrition have been mixed. Sexton (1965) reported that, in general, students who enrolled at the median entrance age plus or minus one year had a slightly better chance of persisting than students who were two or more years off the median age of entering students. However, she discovered that age was only a weak factor in determining the probability of withdrawal. Summerskill (1962:631) concluded from his review of the literature that "age per se does not affect attrition although older undergraduates may encounter more obstacles to graduation." On the other hand, Bledsoe (1953) found that among students who had postponed their education, the older were more persistent than the younger students. Saenger-Ceha (1970) also noted that while many studies showed that the persistence rate of younger students was higher, this was only true for students who went to college directly after high school graduation. Among the students who postponed their education, the older students were more persistent than the younger. A more recent study by Greer (1980) reported that at a junior college, age was directly related to persistence in developmental programs but inversely related to persistence in regular programs.

While sex is not a significant factor in all instances, it can be a significant factor for individual colleges and programs. Cope et al. (1971) found that the type of institution (college, university, community college) affected the comparison between attrition rates among male students to that among female students. They found that the difference between the male and female attrition rates was significant at the four-year colleges they studied. Peng and Fetters (1978) concluded that significantly more women than men withdrew from two-year colleges. Contrary to the results of Cope et al. (1971), they found no significant difference at the four-year colleges they investigated. They suggested that the disagreement between their study and that of Cope et al. might be due to the type of institutions studied or might reflect the change in sex roles over the seven years separating the two studies. Bean (1980) studied student withdrawals in a freshmen composition program at a major midwestern university. He discovered that while both sexes had the same attrition rate, their reasons for withdrawing were different. He concluded that men left even when they were satisfied with the university, a phenomenon not found among women students.

A study by Astin (1978) illustrated specific examples of the manner in which the two sexes reacted differently to different types of institutions. He noted that (1) the highest withdrawal rates among men occurred at nonselective public universities, and the (2) the lowest withdrawal rates among women occurred at selective Protestant universities and at women's colleges. He did not comment on withdrawal *of men* students from women's colleges.

A study of high achievers by Astin (1964) concluded that women in that catagory were less likely to complete their academic program than were their contemporary men students. In another institution-specific study, Johansson and Rossman (1973) found no effect of sex on attrition from a liberal arts college.

Studies attempting to identify an effect of sex on nationwide average college attrition have had mixed results. A review of the literature by Tinto (1975) conflicted with reviews conducted by Summerskill (1962) and Pantages and Creedon (1978). Tinto concluded that women were generally more apt to withdraw from their college than were men. In contrast both Summerskill, and Pantages and Creedon concluded that while sex may be a contributing factor at some colleges, it did not appear to be a significant factor in predicting attrition nationwide.

Socioeconomic Factors

Socioeconomic factors such as family background and parental education have been extensively studied to determine their effect on the likelihood of students remaining in college. Peng and Fetters (1978) found that family background was related significantly to attrition rates. They opined that this was probably due to parental expectations. Lenning et al. (1980:11) concluded that "the reason socioeconomic level relates to student retention is because it affects pre-college environment and personality and they, in turn, affect student motivation and aspirations." Warriner et al. (1966) arrived at this same conclusion. They found that male college freshmen whose mothers and fathers had failed to complete their college education more often discontinued their

education than males whose parents had finished. In his study, Farnsworth (1959) concluded that if a student came from a family where educational and intellectual achievement was valued, the student was more likely to absorb these values and thus be more inclined to complete. This conclusion was confirmed in a more recent study conducted by Tinto (1975). He concluded that students from lower status families have higher withdrawal rates than those from higher status families. An important aspect to this research was provided by Pantages and Creedon (1978) who concluded from their review of research, that socioeconomic factors were insignificant when the student's high school Grade Point Average (GPA) was controlled. From an analytical point of view, this finding has the powerful implication that experiments may be able to address the easily quantifiable high school GPA rather than elusive socio-economic factors. Further studies in this regard are required to validate this conclusion.

Academic Factors

Academic factors have been found to account for at least half the variance between finishers and non-finishers. High school GPA has been found to be more significant than scholastic aptitude, although scholastic aptitude is certainly a close second in predicting attrition (Tinto, 1975; Marks, 1967). Tinto (1975) claimed that of the two, past grade performance tended to be the better predictor because it corresponded more closely to the student's ability to achieve within an educational setting. Other researchers have also noted that high school GPA is a significant predictor of attrition. Astin (1973) concluded that the probability of getting a bachelor's

degree in four years was increased by seventy percent if the student's high school GPA was at least a 3.5 (on a 4.0 scale). Demitroff (1974) asserted that academic factors are the most reliable predictors of attrition. Summerskill (1962) found that in ten out of eleven studies, the college dropout had lower average grades in high school than did the college graduate. He concluded that "it is possible substantially to reduce high attrition rates by simply raising college admissions requirements with respect to secondary school grades" (Summerskill, 1962: 634).

Summerskill also reported that average scholastic aptitude scores were lower for dropouts than for graduates in sixteen out of nineteen studies that he reviewed. He concluded that colleges could "reduce attrition by rejecting applicants whose scores on standardized tests of scholastic aptitude fall below the minimums set by the college" (Summerskill, 1962: 635). The majority of studies that were reviewed by Pantages and Creedon (1978) concurred that on scholastic aptitude, as measured by SAT and ACT tests, there was a significant difference between dropouts and non-dropouts.

Since no one has devised an instrument that is totally accurate when predicting student retention, many students enter college who will later drop out. Summerskill (1962) found that first semester grades were a good predictor of attrition only if these grades were low. He further reported that high grades gave no indication of possible future withdrawal. Pedrini and Pedrini (1976) concluded that, for predicting academic dropouts due to low grades, first semester college grades were the best predictors.

They found that, for black students at the University of Nebraska, college grades were the only significant predictor. In contrast for other students, ACT scores and financial aid receipt were also predictors.

Studies have shown that while study habits are not a significant predictor, they do play a part in determining the likelihood of persistence. Demitroff (1974) concluded that dropouts more frequently characterize their study habits as poor or below average than those who remain. Sexton (1965) reported that those who remained estimated they spent more time studying per week than they believed the average student did.

Motivation

Many studies have been conducted to study motivational forces--goals, interests, and satisfactions of the student as they relate to the college. Hackman and Dysinger (1970) found a relationship between academic competence and commitment to the college that affects persistence. Johnson and Chapman (1980) discovered that the best predictor of attrition was to ask students if they intended to return the next semester. Forty percent of the students who said they would not return did not return. A strong factor in student persistence is the amount of involvement in academic and social activities (Astin, 1975). Bean (1980) also concluded that institutional commitment was an important variable in explaining student dropout. In spite of the conclusions from these studies, Summerskill (1962: 639) concluded "The trouble here is that we do not know what motivational forces are actually predictive of college success and we do not know how to accurately assess such motives in students."

Pantages and Creedon (1978) in their review of twenty-five years of attrition research, also found no conclusion that could be drawn concerning motivational and personality factors as predictors of attrition. They claimed that research has been hampered by a lack of accurate assessment techniques. They further postulated that perhaps these factors may be far less important in determing whether or not a student will be a finisher than has been traditionally assumed.

Influence of Personal Contact on Attrition

On-Campus Courses

In an effort to reduce class attrition at Mercer County Community College (New Jersey), Grunes (1974) examined attrition in mathematics courses. He found that attrition was greatly reduced following the introduction of a student advisement program. This program consisted of placing students in mathematics classes based on ability and background information.

Reed (1981) studied attrition at Kansas State University. He found three statistically significant predictors of student withdrawal: (1) student performance, (2) motivation, and (3) impression of the instructor. Students who were satisfied with their performance in a class tended to remain. As dissatisfaction increased, the pressure to withdraw also increased. Reed defined motivation in terms of class relevancy to the student. Students were more persistent if the class was interesting and relevant to them. In general, students who found the instructor interesting and helpful tended to continue. Reed concluded that a good relationship between counselor and

student could lower the likelihood of student withdrawal. He advised counselors to spend time with students trying to relieve anxieties they may have and to help students to identify their interests or special needs. He also suggested that instructors be make aware of the part they play in student withdrawal. Instructors should give students early positive feedback. Special efforts to be friendly and helpful will also tend to reduce student withdrawal. In conclusion, Reed felt the quality of interpersonal relationships of staff and students was a critical factor influencing students' withdrawal decisions.

At American River College (California) Rasor (1980) sampled students during the Fall 1979 semester. He found five reasons for class drops: (1) difficulty of content, (2) job conflict, (3) subject matter not as expected, (4) getting behind in course work, and (5) instructor not interesting. This study strongly suggested that students drop classes mainly for academic reasons. Razor concluded that the staff can have a high degree of influence over the rate of withdrawal from classes.

Napa College (Dallas, 1971) participated in a twenty-two college study (NORCAL) of attrition throughout northern California. The second phase of this study involved developing a questionnaire to predict those students who had a high withdrawal potential. In the third phase, techniques were developed to increase the retention of those found from the questionnaire to be attrition-prone. At Napa College a sample of these attrition-prone students were encouraged to seek the advice and help of a counselor. A significantly larger proportion of these students remained the following

semester compared to a similar sample of students who did not receive counseling. At Napa College the students who were attrition-prone lacked: (1) personal goals, (2) parental encouragement, and (3) a feeling that college is important. The counselors asked the students to drop in for counseling and created a caring atmosphere. As a result, on the average, students saw their counselor 3.5 times averaging fifteen minutes to an hour per visit. Dallas is careful to point out that these students received only counseling--no special tutoring. She posed the question "Is failure due not to ability, but to no one caring?" (Dallas, 1971: 32).

Sierra College (Beal and Noel, 1980) also participated in the NORCAL project. They sent letters to a sample of attrition-prone students. Counselors also conducted one to eight interviews with each of these students. Again the retention and achievement was significantly higher than in the control group.

Flannery (1973) also found that personal contacts significantly lowered attrition. He concluded that the more contact students had with faculty members and staff the more likely they were to be satisfied with their education and to remain in college. Beal and Noel (1980) also contended that a positive effect upon attrition is created by a caring attitude of faculty and staff. Pascarena et al. (1978) found that students allowed to interact with the faculty performed substantially better than students who were not allowed to interact with the faculty. They also reported that past a certain threshold of interaction, further interaction provided little improvement in performance. This study has significant implications for telecourse organizers. In telecourses, the only viable choices are

"no interaction" and "limited interaction." Massive interaction in telecourses is precluded by their very nature. However, this study suggests that massive interaction is only marginally more effective than the limited interaction option possible with telecourses.

Telecourses

The literature showed that attrition in both on-campus courses and telecourses was lowered when students and instructors interact. Personal contact was particularly important in telecourses. Duby and Giltrow (1978) found that many students required attention and encouragement toward the end of the course and at exam times. Studies showed that telecourse students liked meeting with the instructor at the beginning of the course (Heimantoler, 1978).

> When counseling is made available as early in the course as possible, we would hope that the sense of anonymity inherent in mass education techniques can be counterbalanced with human concern for the individual (Duby and Giltrow, 1978:47).

Purdy (1978) did a study at Coastline Community College (California) that showed feedback helped telecourse retention rates and course grades. Students who received an analysis of their errors on quizzes had better end-of-course grades than those students who did not. Another study at Coastline found that students who received a postcard early in the semester asking their opinion of the telecourse were more likely to complete the course than students who were not sent postcards. Purdy opined that the postcards constituted personal contact which encouraged the students to remain.

Erickson and Chausow (1960) reported that telecourse retention at Chicago TV College was improved by increasing the communication

between teacher and students. The retention level in Fundamentals of Mathematics 101 improved from 26% in Fall 1957 to 59% in Fall 1959. This was accomplished by having lesson-by-lesson mailing and return of assignments, face-to-face conferences, and scheduled telephone conference hours. Counseling measures were also instituted to insure that students were prepared for the telecourses in which they were enrolled and that their course load was not too heavy. Conference sessions were scheduled to help the students with difficult material. Assignments were designed to allow positive feedback and exams related to the course objectives.

Summary

Researchers have concluded that telecourse students are, in general, highly motivated with one or two years of college credits. They are older, working, retired, or caring for children. They cannot or do not want to come on to a campus to take a particular class.

The literature showed that properly designed telecourses were generally as effective as the parallel on-campus courses. Thus, it was appropriate to evaluate the telecourse program at Saddleback College by direct comparison between telecourses and parallel on-campus courses.

The literature has shown student attrition to be a problem both in telecourses and on-campus courses. Because their reasons are mainly nonacademic, there is little that can be done to prevent students from withdrawing from college. The students that can be helped are the ones who withdraw from a class. Researchers have concluded that personal contact between student and instructor

helps reduce the class withdrawal rate. This is especially true in telecourses, where there is almost no student-instructor contact and the student withdrawal rate is much higher than in on-campus courses.

The review of the literature aided in the construction of the telecourse student questionnaire. The literature indicated that no single factor was the cause of attrition. Sex and age, while not strong factors, did have some effect on attrition (Pantages and Creedon, 1978). Academic factors were found to account for at least half the variance between finishers and non-finishers. High school Grade Point Average (GPA) and scholastic aptitude were significant factors in predicting persistence. If a student was already in college, the college GPA was also a factor in determining persistence. While the general conclusion was that there is no way to assess how motivational forces predict college success, there is some feeling that student goals affect persistence (Astin, 1975). According to the literature, the student's major has an effect on the persistence rate (Newlon and Gaither, 1980). All of these factors were specifically incorporated into the design of the student questionnaire.

CHAPTER III

PROCEDURES AND METHODOLOGY

The purpose of this study was to evaluate the telecourse program at Saddleback College. Three aspects were addressed:

1. Student Retention. A questionnaire was developed to compare the profile of the students who finish telecourses to the profile of those students who do not.
2. Student Achievement. Pre- and post-tests were developed to compare student achievement between telecourses and parallel on-campus courses.
3. Student Satisfaction. A questionnaire was developed to assess satisfaction with the telecourse program, as perceived by those students who finished.

Student Retention

Methodology

The descriptive method of research was used to determine the profile of those students who finish and the profile of those students who fail to finish telecourses. Since the intent was to compare the profile of the finishers to that of the non-finishers, no hypothesis was tested. Percentages were used to compare the responses of these two groups. A questionnaire (Appendix A) was developed to be given to all enrolling telecourse students. After the completion of the course, the questionnaires were separated based on whether

or not the students completed the course. A composite profile was then developed for each group based on the questionnaires.

Developing the Questionnaire

A review of the literature on telecourse and on-campus course student retention aided in the formation of the questions. While no single factor was indicated to be the cause of attrition, the literature concluded that age, sex, high school and college Grade Point Averages, and scholastic aptitude were significant factors in predicting persistence (Pantages and Creedon, 1978). Astin (1975) reported that while there is presently no way to assess quantitatively to what degree motivational forces predict college success, student goals and future plans clearly affect persistence. Newlon and Gaither (1980) also discovered that a student's major has an effect on the persistence rate.

Twenty-seven questions were compiled. Six questions dealt with demographic factors: age, sex, racial and educational background. Twelve questions involved academic factors: grade point averages, number of college units completed, study habits, and number of telecourses completed. Six questions related to academic goals and future plans. Three questions requested information on personal matters: how free time is spent and if the student will be studying alone or with a friend. Nine of these questions are open-ended in order to allow for maximum response by the student, while the other eighteen questions are multiple choice. Open-ended questions can also serve as a check on the validity of particular student responses. If certain of the open-ended questions overlap the multiple choice questions, the data analyst can check the

responses for consistancy. One open-ended question of this type was deliberately included to provide this check.

Revising the Questionnaire

The questionnaire was reviewed and revised twice before it was given out in a pilot study.

The first review of the questionnaire was made by the director of telecourses at Saddleback College. Recommendations were primarily those relating to clarity and arrangement of questions. The tentative questionnaire was then revised on the basis of this review.

The second review of the questionnaire was by the writer's Major Applied Research Project Committee. The primary suggestion secured from this review was to include an open-ended question that would verify multiple choice responses and register degrees of feeling. The questionnaire was then revised again by including such an open-ended question. The resultant questionnaire was used for the pilot study described in the following section.

Pilot Study

The questionnaire was given to all students enrolled in telecourses at Saddleback College during the Fall 1982 semester orientation meeting. Attendance at this meeting was required of all telecourse students for the two semesters covered by this study. Arrangements were made to allow any student who could not attend this meeting to fill out the questionnaire at the college library any time during the first two weeks of the semester. Seventy percent of the students completed questionnaires some time during this period. Two hundred sixty-two questionnaires were completed.

The data from this pilot study were analyzed to aid in validating the questionnaire. The analyses indicated that clarification needed to be made in the following questions:

1. In questions 11 and 19 the words "Please specify" were changed to "Where?"

2. In question 25 the word "spouse" was changed to "relative."

A copy of the questionnaire is presented in Appendix A of this report.

The Final Questionnaire

The final questionnaire was given to all telecourse enrollees at the Spring 1983 semester orientation meeting. As in the case of the pilot study, arrangements were made to allow any student who could not attend the orientation to fill out the questionnaire at the college library any time during the first two weeks of the semester. One hundred five questionnaires were completed. Treatment of the data from this questionnaire is described in the following section.

Treatment of the Data

The returned questionnaires were checked to verify that they had been completed and that the data were in usable form. The responses to the overlapping open-ended question (number 27) and multiple choice question (number 14) were compared to validate the respondant's answers. No invalid questionnaires were detected, however, the open-ended question responses provided valuable insights that were not available from the multiple choice answers. The questionnaires were separated at the end of the semester by finishers and non-finishers.

Analysis of the Data

Because the intent of the questionnaire was to compare the profile of the finishers to that of non-finishers, there was no need for statistical evidence to confirm or deny any hypothesis. No elaborate statistical techniques were used for determining the "significance" of the responses to any question of the survey instrument. Rather, the percentage obtained for each group was compared to the total group for each question. Differences between finishers and non-finishers were noted.

Student Achievement

Design of the Project

Student achievement was assessed using four telecourses given in the Spring 1983 semester at Saddleback College. These telecourses included: (1) Political Science 1--American Government, (2) Psychology 33--Understanding Human Behavior, (3) Music 20--Topic Music, and (4) Marine Science 175--Oceanus. In each case, the same instructor taught both the telecourse and the parallel on-campus course. Outlines of each telecourse and its parallel on-campus course were inspected to insure that they were identical.

For each course, a test was developed to be used as both a pre- and post-test. This test was developed by the instructor teaching that course in collaboration with the author. The author administered each pre-test to the telecourse students at the orientation meeting. Each instructor administered the pre-test to the students in the parallel on-campus course during the first week of the semester. The author was responsible for administering makeup

pre-tests in the telecourses. Each instructor was responsible for administering pre-test makeups in the on-campus course. The post-tests were given at the time of the final examination for both types of classes.

Analysis of the Data

The quasi-experimental method of research was used to test the hypothesis "There is no significant difference between the post-test scores of the telecourse students and the parallel on-campus students." The quasi-experimental research method was employed because it was impossible to randomly assign students to the two types of classes. An analysis of covariance (Hays, 1981) was employed using the scores from the pre- and post-tests. Prior learning, as determined by the results on the pre-test, is controlled statistically when using this technique. The hypothesis was tested with 0.05 as the acceptable probability level.

Student Satisfaction

Developing the Questionnaire

It is not only important that as many students be retained as possible, but that they have a positive attitude about telecourses. In order to assess the students' attitude about telecourses, a second questionnaire was given to all telecourse students with the final examination.

The six items were set up in statement format to be responded on a six point Likert Scale. Possible responses ranged from "Strongly Agree" to "Strongly Disagree." A six point scale rather that the more common five point scale was used so that the respondents would be unable to choose a "neutral" central value.

Pilot Study

The questionnaire was given to the students who finished the telecourses during the Fall 1982 semester. The data from this pilot study were analyzed to aid in validating the questionnaire. The analyses indicated that the questionnaire was adequate for the study. A copy of this questionnaire is presented in Appendix B.

Analysis of the Data

Because the intent of the questionnaire was to assess student satisfaction with telecourses, no elaborate statistical techniques were used for determining the "significance" of the responses to any statement of the survey instrument. Rather, each response was given a weighted value according to the following scale

Response	Weighted Value
1 - Strongly Agree	1 point
2 - Mostly Agree	2 points
3 - Mildly Agree	3 points
4 - Mildly Disagree	4 points
5 - Mostly Disagree	5 points
6 - Strongly Disagree	6 points

In order to assess student satisfaction, a mean score of the weighted values of responses to each item was computed. The data were then analyzed for each telecourse and for the total of all four telecourses.

Summary

The purpose of this study was to evaluate the telecourse program at Saddleback College. Three aspects of this program were assessed: (1) student retention, (2) student achievement, and (3) student satisfaction.

The sample included all the students enrolled in the four telecourses offered during the Spring 1983 semester at Saddleback College. These telecourses included: (1) Political Science 1--American Government, (2) Psychology 33--Understanding Human Behavior, (3) Music 20--Topic Music, and (4) Marine Science 175--Oceanus.

The descriptive method of research was used to compare the profile of the students who finish telecourses to that of those students who do not finish. A questionnaire was developed to determine demographic data, academic data, academic goals, and future plans. One-third of these questions were open-ended in order to allow for maximum response from the student.

A pilot study was conducted during the Fall 1982 semester. It included two hundred sixty-two students enrolled in four telecourses. Based on the results of this pilot study, a revised questionnaire was given to telecourse enrollees at the beginning of the Spring 1983 semester. Two hundred five students completed the questionnaire.

After the completion of the telecourse, the questionnaires were separated based on whether or not the students finished. For each question, the percentage obtained for each group was compared to the total group. Differences between finishers and non-finishers were noted.

The quasi-experimental method of research was used to assess student achievement. Each telecourse offered at Saddleback College for the Spring 1983 semester was tested against its parallel on-campus course. Pre- and post-tests were given to all students enrolled in telecourses and a parallel on-campus course. An

analysis of covariance was employed to determine whether there was any significant difference between the amount of learning achieved by the telecourse students and that achieved by the parallel on-campus students, as shown by the post-test scores.

A questionnaire was also developed to assess student satisfaction with the telecourse program. Students were asked to respond to six statements. The statistical analysis consisted of assigning a weighted value to each response and calculating the mean response score for each question. These mean scores were analyzed for each telecourse and for the total of all four telecourses.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this study was to evaluate three aspects of the telecourse program at Saddleback College: (1) student retention, (2) achievement, and (3) satisfaction with the program. The sample for this study included all telecourse students and on-campus students enrolled in the following courses: (1) Political Science 1, (2) Psychology 33, (3) Marine Science 175, and (4) Music 20. The sample was limited to Saddleback College students enrolled in the Spring 1983 semester.

Student retention data were obtained from college records and were correlated with personnel data obtained from a questionnaire that was completed by all telecourse students at the beginning of the semester. Two hundred five questionnaires were completed and used in this study. Each completed questionnaire was checked for completeness, and the composite of all questionnaires was analyzed for correlations with scholastic, demographic, and socio-economic factors. By far the most striking correlation between finishers and non-finishers was that fifty-eight percent of the telecourse students who completed the questionnaire completed the course, while only seventeen percent of the telecourse students who did not complete the questionnaire completed the course.

Student achievement data were obtained from scores on a test given as both a pre-test and post-test. The test was administered to both the telecourse students and to the students in the parallel on-campus course, for each course evaluated. An analysis of covariance (Hays, 1981) was used to test the hypothesis "there is no difference between the post-test scores of the telecourse students and the parallel on-campus students." No significant differences in achievement between telecourse students and students in the parallel on-campus courses were observed.

Satisfaction with the telecourse program was evaluated through a second questionnaire provided to all telecourse students. This questionnaire was given to all telecourse students who finished the course in which they were enrolled. Of the 151 telecourse finishers, 118 answered the questionnaire. The majority of these students indicated that they were satisfied with the telecourse they had taken.

Part A of this chapter focuses on describing the findings of the questionnaire that was developed to assess student retention. The central theme of Part B of this chapter is the analysis and presentation of the student achievement data obtained from the pre- and post- tests. Part C of this chapter concentrates on the findings of the student satisfaction questionnaire.

PART A

ANALYSIS AND PRESENTATION OF STUDENT RETENTION DATA

A twenty-seven item questionnaire was developed to assess student retention. This questionnaire was given to all telecourse enrollees at the orientation meeting. Of the 400 telecourse enrollees, 205 filled out the questionnaire. After the conclusion of the course, the questionnaires were separated into two groups: finishers and non-finishers. The responses of the two groups to each question were compared.

Table 1 presents the distribution of the responses for the first twenty-six questions. The open-ended responses to question 27 paralleled the responses to question 14. Graphs of these responses can be found in Appendix C.

Findings

Responses to twenty-one of the questions indicated no difference between finishers and non-finishers. However, for five of the questions, the finishers tended to differ from the non-finishers. Finishers indicated they preferred to study alone. Consistently, fewer of them were taking the telecourse with a friend or relative than the non-finishers. They were more likely to be taking the course for degree requirements or career advancement. Responses of non-finishers indicated that they had more problems taking classes on campus than did the finishers. They were also less likely than finishers to have taken telecourses previously.

The most striking comparison between finishers and non-finishers does not appear in the responses they provided, but

TABLE 1

DISTRIBUTION OF RESPONSES TO QUESTIONNAIRE

Question	Response(%)		
	Finishers	Non Finishers	Composite
#1 Sex			
Male	36	37	37
Female	64	63	63
#2 Age			
17 or below	2	5	3
18-22	26	25	26
23-27	19	20	20
28-33	18	13	16
34-39	16	17	17
40-49	12	15	13
50 or over	7	6	6
#3 Marital Status			
Single	41	39	40
Married	48	53	50
Divorced	11	8	10
#4 Ethnic Background			
Asian	3	6	3
Black	0	0	0
Hispanic	0	0	0
Caucasian	96	94	96
Other	2	0	1
#5 Number of years since last attended school			
0	81	80	81
1-5	11	14	12
6-10	4	6	5
11-15	2	0	1
16-20	1	0	1
over 20	1	0	1
#6 Highest Educational Level Completed			
Below 12th grade	2	7	4
High School grad	6	7	6
0-30 college units	31	26	29
31-60 college units	36	41	39
over 60, no degree	8	6	7
AA degree	11	8	10
Bachelor's Degree or above	6	5	5

TABLE 1 (Continued)

Question	Response(%)		
	Finishers	Non Finishers	Composite
#7 High School grades			
A	18	17	18
B	53	52	52
C	28	28	28
Did not graduate	0	1	1
no response	2	2	2
#8 College grades			
A	25	23	24
B	47	48	47
C	18	17	18
First semester	8	8	8
no response	3	3	3
#9 Units completed at Saddleback			
0	16	26	20
1-5	9	7	8
6-10	14	13	13
11-15	13	7	10
16-20	5	6	5
over 20	39	39	39
no response	4	2	3
#10 Total units enrolled Fall semster			
1-5	14	14	14
6-10	44	45	44
11-15	31	33	32
16-20	11	7	9
over 20	0	1	1
#11 Enrolled at other institution?			
yes	15	9	13
no	85	91	87
#12 Primary occupational status			
Full-time housewife	13	11	12
Full-time employed	42	48	45
Part-time employed	33	29	31
Retired	2	2	2
Unemployed	10	9	10

TABLE 1 (Continued)

Question	Response(%)		
	Finishers	Non Finishers	Composite
#13 Possible to take courses on-campus?			
yes	88	78	84
no	12	22	16
#14 Reason for enrolling in TV class			
on-campus course unavailable	3	3	3
transportation	6	5	5
babysitter	7	9	8
health	0	3	1
time better	68	60	64
fewer scheduled hours	13	20	16
other	3	0	2
#15 Reason for taking course			
for degree	76	69	73
general interest	22	30	25
career advancement	2	1	1
#16 Plans to enroll next semester at Saddleback			
yes	96	98	97
no	3	1	2
undecided	1	1	1
#17 Plans to enroll in a TV course next semester			
yes	63	61	62
no	25	22	23
undecided	13	17	15
#18 Number of TV courses previously enrolled			
0	63	71	66
1	19	17	19
2	9	6	8
3	3	3	3
4	2	1	1
5-10	3	1	2

TABLE 1 (Continued)

Question	Response(%)		
	Finishers	Non Finishers	Composite
#19 TV courses taken at other colleges			
yes	25	20	23
no	75	80	77
#20 TV courses: C or better			
0	2	4	3
1	52	64	57
2	25	12	20
3	7	16	10
4	5	4	4
5-10	9	0	6
#21 Description of study habits			
study with others	5	18	11
study alone	95	82	89
#22 Primarily seek help			
Instructor	70	75	72
Classmates	14	21	17
Tutor	4	0	2
Family	3	1	2
Books	8	3	6
#23 Hours of free time spent watching TV			
0-5	44	38	41
6-10	32	33	33
11-15	13	11	12
16-20	8	9	8
over 20	3	8	5
#24 Hours of free time spent reading			
0-5	37	48	42
6-10	38	29	34
11-15	9	10	10
16-20	10	9	10
over 20	5	3	4

TABLE 1 (Continued)

Question	Response(%)		
	Finishers	Non Finishers	Composite
#25 Taking TV course with friend/relative			
yes	19	34	26
no	81	66	74
#26 Major			
Declared Major	75	75	75
Undeclared Major	25	25	25

rather in the responses they did not provide. Of the 205 telecourse students who completed the questionnaire, 118 (or 58%) completed the course. Of the 195 telecourse students who did not complete the questionnaire only 33 (or 17%) completed the course. The total number of students enrolled in the telecourses evaluated was 400. Of these, 151 (or 38%) completed the course.

Table 2 presents a summary of the responses to the first 26 questions.

TABLE 2

QUESTIONNAIRE SUMMARY

Comparison Between Responses of Finishers and Non-Finishers

Question	Comparison
1	No difference in sex.
2	No difference in age.
3	No difference in marital status.
4	No difference in ethnic background.
5	No difference in number of years since last attended school.
6	No difference in the amount of education.
7	No difference in high school grades.
8	No difference in college grades.
9	No difference in the number of units completed at Saddleback.
10	No difference in total units enrolled Fall semester.
11	No difference in whether enrolled at other institutions.
12	No difference in primary occupational status.
13*	Finishers have less trouble taking classes on campus.
14	No difference in reasons for enrolling in telecourse.
15*	More finishers were taking course for a degree.
16	No difference in plans to enroll at Saddleback next semester.
17	No difference in plans to enroll in TV course next semester.
18*	More finishers have previously enrolled in a TV course.
19	No difference in TV courses taken at other colleges.
20	No difference in previous TV courses completed.
21*	Finishers prefer to study alone.
22	No difference in where students seek help.
23	No difference in hours of free time spent watching TV.
24	No difference in hours of free time spent reading.
25*	Fewer finishers were taking TV course with friend/relative.
26*	Finishers were more likely to have declared a major.

* Questions where a difference is noted.

PART B

ANALYSIS AND PRESENTATION OF STUDENT ACHIEVEMENT DATA

An analysis of covariance (Hays, 1981) was used to test the hypothesis "there is no significant difference between the post-test scores of the telecourse students and the parallel on-campus students." The hypothesis was tested with 0.05 as the acceptable probability level.

Music 20--Topic Music

Hypothesis: There is no significant difference between the post-test scores of the telecourse students and on-campus students enrolled in Music 20 for the Spring 1983 semester.

Presentation of Findings: The data gathered from the pre- and post-tests administered to telecourse and on-campus course students enrolled in Music 20 are shown in Table 3.

TABLE 3

COVARIANCE ANALYSIS OF MUSIC 20 TEST SCORES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares
Total	28	452.37	
Between Classes	1	50.50	50.50
Within Classes	27	401.87	14.88

F = 50.50/14.88 = 3.39 (Not Significant)

Findings: The F value necessary for significance at the 0.05 level, for 1 and 27 degrees of freedom is 4.21. Thus, the hypothesis of no difference between the two groups may be accepted. The two groups do not differ in performance, as measured by the post-test.

Psychology 33--Understanding Human Behavior

Hypothesis: There is no significant difference between the post-test scores of the telecourse students and on-campus students enrolled in Psychology 33 for the Spring 1983 semester.

Presentation of Findings: The data gathered from the pre- and post-tests administered to telecourse and on-campus course students enrolled in Psychology 33 are shown in Table 4.

TABLE 4

COVARIANCE ANALYSIS OF PSYCHOLOGY 33 TEST SCORES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares
Total	25	3816.62	
Between Classes	1	310.40	310.40
Within Classes	24	3506.22	146.09

F = 310.40/146.09 = 2.12 (Not Significant)

Findings: The F value necessary for significance at the 0.05 level, for 1 and 24 degrees of freedom is 4.26. Thus, the hypothesis of no difference between the two groups may be accepted. The two groups do not differ in performance, as measured by the post-test.

Marine Science 175--Oceanus

Hypothesis: There is no significant difference between the post-test scores of the telecourse students and on-campus students enrolled in Marine Science 175 for the Spring 1983 semester.

Presentation of Findings: The data gathered from the pre- and post-tests administered to telecourse and on-campus course students enrolled in Marine Science 175 are shown in Table 5.

TABLE 5

COVARIANCE ANALYSIS OF MARINE SCIENCE 175 TEST SCORES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares
Total	11	1082.80	
Between Classes	1	79.45	79.45
Within Classes	10	1003.35	100.34

F = 79.45/100.34 = .79 (Not Significant)

Findings: The F value necessary for significance at the 0.05 level, for 1 and 10 degrees of freedom is 4.96. Thus, the hypothesis of no difference between the two groups may be accepted. The two groups do not differ in performance, as measured by the post-test.

Political Science 1--American Government

Hypothesis: There is no significant difference between the post-test scores of the telecourse students and on-campus students enrolled in Political Science 1 for the Spring 1983 semester.

Presentation of Findings: The data gathered from the pre- and post-tests administered to telecourse and on-campus course students enrolled in Political Science 1 are shown in Table 6.

TABLE 6

COVARIANCE ANALYSIS OF POLITICAL SCIENCE 1 TEST SCORES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Squares
Total	13	982.11	
Between Classes	1	229.44	229.44
Within Classes	12	752.67	62.72

F = 229.44/62.72 = 3.66 (Not Significant)

Findings: The F value necessary for significance at the 0.05 level, for 1 and 12 degrees of freedom is 4.75. Thus, the hypothesis of no difference between the two groups may be accepted. The two groups do not differ in performance, as measured by the post-test.

PART C

ANALYSIS AND PRESENTATION OF STUDENT SATISFACTION DATA

In order to assess student satisfaction with the telecourse program, a six item questionnaire was given to those students who finished. Of the 151 telecourse finishers, 118 answered the questionnaire. The questionnaires were grouped by telecourse. Each response was given a weighted value according to the following scale:

Response	Weighted Value
1 - Strongly Agree	1 point
2 - Mostly Agree	2 points
3 - Mildly Agree	3 points
4 - Mildly Disagree	4 points
5 - Mostly Disagree	5 points
6 - Strongly Disagree	6 points

A mean score of the weighted values of responses to each item was computed. Table 7 shows the mean score for each item by telecourse and for the composite.

TABLE 7

SUMMARY OF MEAN SCORES RELATED TO STUDENT SATISFACTION WITH TELECOURSES

Course	Item Number 1	2	3	4	5	6
Marine Science 175	2.4	3.4	3.4	3.5	2.7	1.5
Political Science 1	2.1	3.2	3.5	4.0	2.5	2.5
Psychology 33	2.2	3.4	4.3	4.5	2.6	1.6
Music 20	1.7	2.9	4.0	4.6	2.0	1.7
Composite	2.1	3.2	3.8	4.2	2.4	1.8

Findings

Statement 1: "I am pleased that I took this telecourse instead of the equivalent on-campus course." A mean score of 1.9 indicated that the students "mostly agreed" with this statement.

Statement 2: "The telecourse taught me more than the equivalent on-campus course." The mean score of 2.9 indicated that students only "mildly agreed" with the statement.

Statement 3: "The telecourse was less work than the equivalent on-campus course." Students "mostly disagreed" with this statement as is indicated by a mean score of 3.7.

Statement 4: "The telecourse was graded easier than the equivalent on-campus course." A mean score of 4.2 indicated that students "mostly disagreed" with this statement.

Statement 5: "If a future class I plan to take is offered both by telecourse and on-campus, I will take the telecourse." Students "mostly agreed" with this statement as a mean score of 2.3 indicates.

Statement 6: "I would definitely recommend this course to a friend." A mean score of 1.8 indicated that students "mostly agreed" with this statement.

Students also commented that telecourses were difficult because of the need for self-discipline. They felt that on-campus courses were easier because "an instructor is a constant reminder that you have homework or other projects due."

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to evaluate the telecourse program at Saddleback College. Three aspects were addressed: (1) student retention, (2) student achievement, and (3) student satisfaction.

Student Retention

Data Collection Procedures

A questionnaire was developed for use in this study. The questions dealt with demographic factors, academic factors, and academic goals and future plans.

The sample for this study included all students enrolled during the Spring 1983 semester in the following telecourses: (1) Psychology 33, (2) Political Science 1, (3) Marine Science 175, and (4) Music 20. The questionnaires were completed either during the telecourse orientation meeting or during the first two weeks of the semester. Out of an enrollment of 400 telecourse students, 205 completed the questionnaire.

Treatment of the Data

At the end of the semester, these questionnaires were separated based on whether or not the students completed the course. A composite profile was then developed for each group based on the questionnaires. In order to compare the profile of the finishers to that of non-finishers, percentages were obtained for each group.

These percentages were compared to the total group for each question. Differences between finishers and non-finishers were noted.

Findings

Analysis of the questionnaires revealed slight differences between finishers and non-finishers. Finishers preferred to study alone and had fewer friends or relatives taking the course with them. They were also more likely to be taking the course for degree requirements. The most striking comparison was between those students who completed the questionnaire and those who did not. Of the 205 students who completed the questionnaire, fifty-eight percent finished, while only seventeen percent of those who did not complete the questionnaire finished.

Student Achievement

Data Collection Procedures

In order to assess student achievement, a test was developed to be used as both a pre- and post-test. This test was developed by the instructor teaching that course in collaboration with the author. This test was given at the beginning of the semester in both the telecourse and parallel on-campus course. It was also given at the time of the final examination for both types of classes.

Treatment of the Data

An analysis of covariance was employed using the scores from the pre- and post-tests to test the hypothesis: "There is no significant difference between the post-test scores of the telecourse students and the parallel on-campus students."

Findings

In each case, the test results indicated that the null hypothesis could be accepted. Thus, there was no significant difference in the amount of learning between telecourse students and parallel on-campus students.

Student Satisfaction

Data Collection Procedures

A six item questionnaire was developed to assess student satisfaction. The six items were set up in statement format to be responded on a six point Likert scale. Possible responses ranged from "Strongly Agree" to "Strongly Disagree." By using a six point scale, respondents could not choose a "neutral" central value.

Treatment of the Data

Each answer was given a weighted value of 1 to 6 points--1 point for each "Strongly Agree" response and 6 points for each "Strongly Disagree" response. The mean score of the weighted responses for each statement was computed. Satisfaction with the telecourse program, as perceived by those students who finished, was assessed on the basis of these mean scores.

Findings

Mean scores indicated that students "mildly agreed" that the telecourse taught them more than the on-campus course. However, students "mostly agreed" that they were pleased to have taken the telecourse, would recommend it to a friend, and would take another

one. They "mostly disagreed" that the telecourse was graded easier or was less work than an on-campus course.

Conclusions

The purpose of this study was to evaluate three aspects of the telecourse program at Saddleback College: (1) student retention, (2) student achievement, and (3) student satisfaction.

The results of a questionnaire used to assess student retention indicated that students who completed the courses were more likely to be taking the course for degree requirements or career advancement than students who failed to finish. Students taking their first telecourse were less likely to finish than students who had previously enrolled in one or more telecourses. Students commented that self-motivation was a problem in completing a telecourse. Perhaps related is the fact that more finishers indicated that they preferred to study alone rather than with a friend than did non-finishers. Finishers also had fewer friends or relatives taking the course with them than did nonfinishers. Perhaps also related to motivation was the fact that more non-finishers than finishers indicated that it was impossible for them to attend classes on campus.

Motivation apparently also played a part in the most dramatic finding of this study. Fifty-eight percent of those who had completed a questionnaire finished the course in which they were enrolled, but only seventeen percent of those who did not complete the questionnaire finished the course in which they were enrolled.

The analysis of covariance used to test the hypothesis "There is no difference between the post-test scores of telecourse students

and parallel on-campus students" indicated that the hypothesis could be accepted. Thus, there is no difference in the amount of learning that took place in the telecourses compared to the parallel on-campus courses. Since the two types of classes had the same book and course outline, the courses were equivalent.

The results of the questionnaire used to assess student satisfaction indicated that students were generally satisfied with the telecourse they had taken. Since this questionnaire was only given to students who had completed the course, no conclusion could be drawn concerning the attitudes of the telecourse enrollees who failed to complete the courses.

Implications and Recommendations

Periodic review of the effectiveness of telecourses is necessary not only at Saddleback College, but at every college that offers telecourses. This study attempted to satisfy that need by evaluating three aspects of course effectiveness: (1) how many students completed the courses, (2) how much those students learned, and (3) how satisfied were the students with the program.

In evaluating the fraction of the enrollees who completed the courses, this study attempted to identify characteristics that were common to students who failed to complete their courses.

The most striking fact noted was that eighty-three percent of the students who failed to attend the orientation meeting for their telecourse also failed to complete the telecourse. Consequently, it is recommended that, to increase student retention, more initial activities, such as the orientation meeting, should be planned.

These meetings should be made part of the course requirement. Student retention can be increased by dropping the students who do not participate in the initial activities. While only 38 percent of the total telecourse enrollees finished, if the students who failed to finish the questionnaire had been dropped, the completion rate would have increased to 58 percent.

More initial counseling of students should be done. Younger students with less experience in taking college courses should be counseled to take on-campus courses. Students without a definite reason for taking the course should not be encouraged to take a telecourse because motivation is a large factor in successful completion.

This study should be continued through the 1983-1984 school year to see if the same trends occur each semester. The differences noted between finishers and non-finishers for the 1983 Spring semester may be due in part to the particular courses offered. A similar questionnaire should be given to the on-campus counterparts. A comparison of finishers and non-finishers in each course should be analyzed to ascertain any differences between telecourse and parallel on-campus students.

The director of telecourses at Saddleback College had discussed the possibility of organizing study groups for the students, in hopes of increasing student retention. However, this study indicated that when a student studied with a friend or relative it had a negative effect on the student's probability of completing the course. In addition, only eleven percent of the students (finishers and non-finishers combined) indicated any interest in studying

with others. Consequently, it is recommended that no extra staff effort be devoted toward organizing study groups for telecourse students.

The comparison in educational achievement between the telecourses and the parallel on-campus courses was intended to provide guidance on what types of courses should be offered via television, and what formats should be employed. These results are of great current interest in Orange County, California. Due to the reduction in college funding caused by the passage of Propostion 13, the property tax initiative of 1976, colleges are rigorously evaluating all educational formats. This is of immediate concern at Saddleback College were intense discussions are continuing on the validity of telecourses. It is also of great concern in Coast Community College District (California) where a group of faculty members have formally petitioned the California State University to assert that telecourses are not comparable to on-campus courses.

The results of this study produced no evidence to indicate that the amount of learning is different in a telecourse than in a parallel on-campus course. Based on this fact and the fact that student satisfaction with telecourses was found to be very positive, no changes are recommended in the number, type, or content of telecourses offered at Saddleback College.

Diffusion and Implementation

Whenever innovative teaching methods are employed, evaluation of these methods should take place. At Saddleback College, four telecourses have been evaluated with respect to retention, achievement, and satisfaction. The findings of this study should be made

available to the educational community at large and to interested persons and agencies at Saddleback College and the California community college system. To accomplish this, copies of this paper are being distributed to the Southern California Consortium for Community College Television, the Vice Chancellor of Academic Affairs for the California State University, and the ERIC Clearinghouse for Junior Colleges. The findings will also be presented to the academic senate of Saddleback College and the Coast Community College District.

BIBLIOGRAPHY

Agler, Linda S. Evaluation of the English 101 Telecourse "Writing for a Reason". Dallas, Texas: ERIC Document Reproduction Service, ED 136 868, 1976.

Alfred, Richard L. 1971-1972 Student Attrition: Antecedent and Consequent Factors. Kansas City, MO: ERIC Document Reproduction Service, ED 070 435, 1972.

Anderson, Roger C. Allegany Community College Attrition Study: Fall Semester 1975 - Spring Semester 1976. Cumberland, MD: ERIC Document Reproduction Service, ED 122 878, 1976.

Astin, A.W. "Personal and Environmental Factors Associated with College Drop-Outs Among High Aptitude Students." Journal of Educational Psychology 55(August 1964): 219-227.

_____. "Student Persistence: Some Stay, Some Don't--Why?" College and University 48(Summer 1973): 298-306.

_____. Preventing Students from Dropping Out. San Francisco, CA: Jossey-Bass, 1975.

_____. Four Critical Years. San Francisco, CA: Jossey-Bass, 1978.

Baker, John. Attrition/Retention Study: Fall Quarter 1979. Fremont, CA: ERIC Document Reproduction Service, ED 188 699, 1980.

Baratta, M.K. Nonpersister Study: Zero Credit Hours Earned Spring 1976 to Fall 1976. Palos Hills, Ill.: ERIC Document Reproduction Service, ED 156 232, 1977.

Beal, Philip and Noel, Lee. What Works in Student Retention. Washington, D.C.: American College Testing Program and the National Center for Higher Education Management Systems, 1980.

Bean, John P. "Dropouts and Turnover: The Synthesis and Test of a Causal Model of Student Attrition." Research in Higher Education 12(1980): 155-187.

Bledsoe, J.C. "Success of Non-High School Graduate Students in Three Southern Colleges." College and University 28(Spring 1953): 381-388.

Bossen, D. and Burnett, C. "What Happens to the Withdrawal Student?" Junior College Journal 40(June 1970): 30-32.

Bower, Cathleen P. Sample Reports from a Student Outcomes Survey. Boulder, Col.: ERIC Document Reproduction Service, ED 148 906, 1977.

Braverman, Barbara and Cronin, Barry. "Television and the Deaf." Journal of Educational Technology Systems 7(1978): 7-17.

Broadbent, W.A. An Inquiry into the Factors Underlying Class Schedule Changes at Leeward Community College. Honolulu, Hawaii: ERIC Document Reproduction Service, ED 119 778, 1975.

Brock, Dee. "PTV-3 and the Community College Connection." In Organizing Telecourse Users: A Roundtable Discussion, Edited by James J. Zigerell, Thomas W. Hobbs, and Dee Brock. Washington, D.C.: ERIC Document Reproduction Service, ED 194 176, 1980.

Bundy, E.W. "Television and the Learning of Spanish Verbs." In The Impact of Educational Television, pp. 125-142. Edited by W. Schramm. Urbana, IL: University of Illinois Press, 1960.

Carmichael, Carole. "New College Students." Long Beach Independent Press Telegram, Long Beach, CA, January 8, 1981.

Carnegie Council on Policy Studies in Higher Education. Three Thousand Futures: The Next Twenty Years for Higher Education. San Francisco, CA: Jossey-Bass, 1980.

Chu, G.C. and Schramm, W. Learning from Television: What the Research Says. CA: Institute for Communication Research, Stanford University, 1967.

Cope, R.G.; Pailthrop, K.G.; Trapp, D.C.; Skaling, M.; and Hewitt, R.G. "An Investigation of Entrance Characteristics Related to Types of College Dropouts." Washington, D.C.: ERIC Document Reproduction Service, 052 749, 1971.

Dallas County Community College District. Evaluation of the Business 105 Telecourse "It's Everybody's Business". Dallas, TX: ERIC Document Reproduction Service, ED 143 382, 1977.

Dallas, Gladys E. Attrition Prevention Through Counseling Among Community College Students: NORCAL Phase III. Napa, CA: ERIC Document Reproduction Service, ED 075 012, 1971.

Daly, R. and Bateman, H. "The Grade W: Why Students Drop Their Classes." Community/Junior College Research Quarterly 2(July-September 1978): 353-366.

De Chenne, James A. "Talkback Television: A Partial Solution to Declining Enrollment." Educational Technology 20(October 1980): 55.

de Lesseps, Suzanne. "Education's Return to Basics." In Editorial Research Reports on Issues in Education, pp. 4-11, Edited by H. Gimlin. Washington: Congressional Quarterly, 1976.

Demitroff, J.F. "Student Persistence." College and University 49(Summer 1974): 553-567.

Dirr, Peter J. Higher Education Uses of TV and Radio. Washington, D.C.: ERIC Document Reproduction Service, ED 201 312, 1981.

Dirr, Peter J. and Katz, Joan H. Higher Education Utilization Study, Phase I: Final Report. Washington, D.C.: ERIC Document Reproduction Service, ED 202 464, 1981.

Dirr, P. J. and Pedone, R.J. Instructional Uses of Television by State and Land-Grant Colleges and Universities 1978-79. Washington, D.C.: ERIC Document Reproduction Service, ED 195 196, 1979.

Duby, Paul B. and Giltrow, David R. "Predicting Student Withdrawals in Open Learning Courses." Educational Technology 28(February 1978): 43-47.

Erickson, C.G. and Chausow, H.M. Chicago's TV College, Final Report of a Three Year Experiment. Chicago, IL: Chicago Junior College, 1960.

Farnsworth, D.L. "We're Wasting Brainpower." National Educational Association Journal 48(March 1959): 42-44.

Flannery, J. Final Report from the Ad Hoc Committee to Study Attrition at Miami-Dade Community College. Miami, FL: ERIC Document Reproduction Service, ED 085 052, 1973.

Friedlander, Jack. "The Problem of Withdrawal from College Credit Courses." Community College Review 8(Summer 1981): 57-66.

Greer, Linda R. "Persistence and Academic Success Among Non-Traditional Age Students at a Junior College." Paper presented at the annual forum of the Association for Institutional Research, Atlanta, GA: May 1980.

Gross, Ronald. "The Other Open University, Part I." Planning for Higher Education 7(August 1978): 9-19, 25-36.

Grunes, Leslie S. "A Critical Study of the Attrition in the Mathematics Courses at Mercer County Community College." New Jersey: ERIC Document Reproduction Service, ED 089 824, 1974.

Hackman, R. and Dysinger, W. "Commitment to College as a Factor in Student Attrition." Sociology of Education 43(Summer 1970): 311-324.

Hays, William L. Statistics. New York, New York: CBS College Publishing, 1981.

Heimantoler, Michael C. "The Non-Traditional College Student and Public Television." Community and Junior College Journal 48(March 1978): 13-15.

Hershfield, Allan F. "Education's Technological Revolution: An Event in Search of Leaders." Change 12(November/December 1980): 48-52.

Hoban, Charles F. Determinants of Audience Formation and Reaction to Early-Morning TV College Credit Courses. Philadelphia: University of Pennsylvania, 1963.

Hult, Richard E. "The Effectiveness of University Television Instruction and Factors Influencing Student Attitudes." College Student Journal 14(Spring 1980):5-7.

Hunter, R. and Sheldon, M. Statewide Longitudinal Studies: Report on Academic Year 1978-1979 Part I--Fall Results. CA: ERIC Document Reproduction Service, ED 180 530, 1979.

Jackley, Janet and Henderson, Cathy. "Retention Tactic for the Eighties." American Council on Higher Education Policy Brief, Washington, D.C.: American Council on Education,1979.

Jackson, Edison O. and Mc Millan, Robert L. Study of Attrition: Non-Returning Students for 1975-1976. Newark, NJ: ERIC Document Reproduction Service, ED 136 861, 1976.

Jelen, Charlanne. "The Administration of a Telecourse Operations Department and the Interface Between the Student, Instructor, and College Campus." Journal of Technological Horizons in Education 4(October/December 1977): 19-22.

Johansson, Charles B. and Rossman, Jack E. "Persistence at a Liberal Arts College: A Replicated Five-Year Longitudinal Study." Journal of Counseling Psychology 20(January 1973): 1-9.

Johnson, R.H. and Chapman, D.W. "College Recruiting in the Next Ten Years." Journal of the National Association of College Admissions Counselors 24(February 1980):2-7.

Kumata, Hideya. "Two Studies in Classroom Teaching by Television." In The Impact of Educational Television, pp.151-175. Edited by W. Schramm. Urbana, IL: University of Illinois Press, 1960a.

Kumata, Hideya. "A Decade of Teaching by Television." In The Impact of Educational Television, pp. 176-192. Edited by Wilbur Schramm. Urbana, IL: University of Illinois Press, 1960b.

Lenning, O.T.; Sauer, K.; Beal, P.E. Student Retention Strategies. Washington, D.C.: American Association for Higher Education, 1980.

Lightfield, E. Timothy. They Do Come Back! Student Attrition at the Community College. Trenton, NJ: ERIC Document Reproduction Service, ED 095 937, 1974.

London, Jack and Ewing, Jeanne B. Societal Factors Affecting Education. Ft. Lauderdale, FL: Nova University Press, 1980.

Luskin, Bernard and Zigerell, James. "Community College in Forefront of Telecourse Development." Community and Junior College Journal 48(March 1978): 8-9, 44-45.

Marks, E. "Student Perceptions of College Persistence, and Their Intellective, Personality and Performance Correlates." Journal of Educational Psychology 58(August 1967): 210-221.

Matley, B.G. Relationship Between Grade Upon Withdrawal and Time of Withdrawal for Selected Courses at Ventura College. Ventura, CA: ERIC Document Reproduction Service, ED 153 669, 1978.

McClellan, George A. Jr. "New Communication Technologies Can Increase the Community College Market." Community College Review 8(Fall 1980): 13-17.

Mittelstet, Stephen K. "Telecourses Recruit in Dallas." Community and Junior College Journal 48(March 1978): 20-22.

Mondale, Walter E. "The Next Step: Lifelong Learning." Change 9(October 1977): 42-45.

Mount, George and Walters, Sharon. "Traditional Versus Televised Instructional Methods for Introductory Psychology." Journal of Educational Technology Systems 9(1980): 45-53.

Munshi, Kiki S. Telecourses: Reflections '80. Washington, D.C.: ERIC Document Reproduction Service, ED 191 115, 1980.

Newlon, Lorraine and Gaither, Gerald. "Factors Contributing to Attrition: An Analysis of Program Impact on Persistence Patterns." College and University 55(Spring 1980): 237-251.

Pantages, Timothy J. and Creedon, Carol F. "Studies of College Attrition: 1950-1975." Review of Educational Research. 48 (Winter 1978): 49-101.

Pascarena, E.T.; Terenzini, P.T.; Hibel, J. "Student-Faculty Interactional Settings and Their Relationship to Predicted Academic Performance." Journal of Higher Education 49(September/October 1978):450-63.

Pedrini, D.T. and Pedrini, B.C. "Assessment and Prediction of Grade Point and/or Attrition/Persistence for Disadvantaged and Regular College Freshmen." College Student Journal 10(Fall 1976): 260-264.

Peng, Samuel S. and Fetters, William B. "Variables Involved in Withdrawal: During the First Two Years of College: Preliminary Findings from the National Longitudinal Study of the High School Class of 1972". American Educational Research Journal 15(Summer 1978): 361-372.

Purdy, Leslie. "Telecourse Students: How Well Do They Learn?" Speech presented at AACJC Annual Conference, Atlanta, GA, 1978.

Purdy, Leslie and Icenogle, Darrell. Classic Theatre: The Humanities in Drama, Final Research Report. San Diego, CA: ERIC Document Reproduction Service, ED 133 028, 1976.

Rasor, Richard A. Why Students Drop Classes and Withdraw from American River College. California: ERIC Document Reproduction Service, ED 184 654, 1980.

Reed, Jeffrey G. "Dropping a College Course: Factors Influencing Students' Withdrawal Decisions." Journal of Educational Psychology 73(June 1981):376-385.

Richardson, Penelope. Issues in Television-Centered Instruction. Los Angeles, CA: ERIC Document Reproduction Service, ED 205 217, 1981.

Roane State Community College. A Study of the "Withdrawal Syndrone". Harriman, Tenn: ERIC Document Reproduction Service, ED 099 086, 1975.

Roueche, John E. Salvage, Redirection, or Custody? Washington, D.C.: American Association of Junior Colleges, 1969.

Rowell, James R., Jr. Student Attrition in Higher Education: A Survey of Recent Literature. Gainsville, FL: ERIC Document Reproduction Service, ED 100 413, 1974.

Saenger-Ceha, M. M. Th. Psychological and Social Factors in Student Drop-Out. Amersterdam: Swets & Zeitlinger n.v., 1970.

Schramm, Wilbur. "Learning from Instructional Television." Review of Educational Research 32(April 1962): 156-167.

Schramm, Wilbur. Big Media, Little Media. Beverly Hills, CA: SAGE Publications, 1977.

Sexton, V.S. "Factors Contributing to Attrition in College Populations: Twenty-five Years of Research." Journal of General Psychology 72(1965): 301-326.

Shulman, Carol H. Instructional Television-Higher Education Without Commercial Interruption. Washington, D.C.: ERIC Document Reproduction Service, ED 201 262, 1981.

Smith, Jeanne. "Retention in Telecourses." Paper presented to the Southern California Consortium for Community College Television, La Habre, CA, 1982.

Smith, Ralph Lee. "A Telecommunication Primer for College Presidents, Part I. The Technology Defined." Planning for Higher Education 7(December 1978): 7-11, 16-23.

Stickell, D.W. "A Critical Review of the Methodology and Results of Research Comparing Televised and Face-to-Face Instruction." Unpublished doctoral dissertation, Pennsylvania State University, 1963.

Summerskill, J. "Dropouts from College." In The American College, edited by N. Sanford. NY: Wiley, 1962.

Texas Education Agency. Course Withdrawal Data Summary--Fall 1976. Austin, TX: ERIC Document Reproduction Service, ED 140 903, 1977.

Thompson, J. Why Students Drop Courses. Michigan: ERIC Document Reproduction Service, ED 026 994, 1969.

Tinto, Vincent. "Dropout from Higher Education: A Theoretical Synthesis of Recent Research." Review of Educational Research 45(Winter 1975): 89-126.

Warriner, C.C.; Foster, D.A.; Trites, D.K. "Failure to Complete as a Family Characteristic: A College Sample." Journal of Educational Research 59(July 1966): 466-468.

Welch, Marie W. A Study of Student Attrition and Retention in Postsecondary Occupational Education Programs at Two-Year Public and Independent Degree-Granting Institutions in New York State. Albany, NY: ERIC Document Reproduction Service, ED 191 537, 1980.

Wetzel, Susan. Non-Returning Student Survey, Winter 1976 -Fall 1976. Media, PA: ERIC Document Reproduction Service, ED 145 906, 1977.

Whisnant, Robert A. "Getting Ready for New Missions." In Responding to New Missions, pp. 1-7. New Directions for Community Colleges Series, no. 24. San Francisco: Jossey- Bass, 1978.

Wolfgang, Mary E. and Dowling, William D. "Differences in Motivation of Adult and Younger Undergraduates." Journal of Higher Education 52(November/December 1981): 640-654.

Woods, N.A. Electronics Program Review: Student Survey. Kalamazoo, MI: ERIC Document Reproduction Service, ED 154 881, 1978.

Yarrington, Roger, ed. Using Mass Media For Learning. Washington, D.C.: ERIC Document Reproduction Service, ED 165 856, 1979.

Zigerell, James J. "Producing Telecourses for a National Market: A Background Paper." In Organizing Telecourse Users: A Roundtable Discussion, Edited by James J. Zigerell, Thomas W. Hobbs, and Dee Brock. Washington, D.C.: ERIC Document Reproduction Service, ED 194 176, 1980.

APPENDIX A

74/75

Questionnaire: Student Profile

SADDLEBACK COLLEGE TELECOURSE QUESTIONNAIRE

The purpose of this questionnaire is to determine a profile of those students who enroll in telecourses. Please help us by answering the following questions.

Please check only <u>one</u> response to each question.

Please fill in your name, course, and date so that at the end of the semester, we can separate the data for those who completed the course from those who did not. Your responses will be completely confidential.

Please fill out a questionnaire for each telecourse in which you are enrolled.

_____ NAME _____ COURSE _____ DATE

1. Sex
   - ___ Male
   - ___ Female

2. Age
   - ___ 17 or below
   - ___ 18-22
   - ___ 23-27
   - ___ 28-33
   - ___ 34-39
   - ___ 40-49
   - ___ 50 or over

3. Marital Status
   - ___ Single
   - ___ Married
   - ___ Divorced
   - ___ Married but separated

4. Ethnic Background
   - ___ Asian
   - ___ Black
   - ___ Hispanic
   - ___ Caucasian
   - ___ Middle Eastern
   - ___ Other (Please specify) _____

5. Number of years since last attended school. Put zero if attended within the past 12 months.

   _____

6. Highest educational level completed
   ___ Below 12th grade
   ___ High School graduate
   ___ 0-30 college units
   ___ 31-60 college units
   ___ over 60 college units but no diploma or degree
   ___ AA degree
   ___ Occupational Certificate
   ___ Bachelor's Degree or above

7. What was your high school Grade Point Average?
   ___ A ___ B ___ C ___ Did not graduate
   ___ A- ___ B- ___ C-
   ___ B+ ___ C+ ___ D

8. What is your current college Grade Point Average?
   ___ A ___ B ___ C ___ First semester
   ___ A- ___ B- ___ C-
   ___ B+ ___ C+ ___ D

9. How many units have you completed at Saddleback?
   _____

10. Including this class, how many <u>total</u> units are you enrolled this semester (Saddleback or another institution)?
    _____

11. Are you taking any courses at another institution this semester?
    ___ Yes (Where?) _____
    ___ No

12. Primary Occupational Status
    ___ Full-time housewife
    ___ Full-time employed
    ___ Part-time employed 20 hours or more
    ___ Part-time employed less than 20 hours
    ___ Retired
    ___ Unemployed

13. Is it possible for you to take courses on campus?
    ___ Yes
    ___ No

14. What was your <u>most important</u> reason for enrolling in a TV course instead of an on-campus course?
    ___ Class I needed not available on-campus
    ___ Transportation problem
    ___ Baby-sitter problem
    ___ Health problems
    ___ I can register later
    ___ Class time better for me
    ___ Fewer scheduled class hours
    ___ Other (Please specify) _____

15. Of the following, which best answers the question: Why are you taking this course?
___ Needed for my degree/certificate program
___ General interest in the subject
___ Career advancement but my plans do not include a degree
___ Other (Please Specify) _____

16. Do you plan to enroll for classes at Saddleback or any other college next semester?
___ Yes
___ No

17. Do you plan to enroll in a telecourse next semester?
___ Yes
___ No

18. How many telecourses have you enrolled in before this semester (Saddleback or another institution)?
_____

19. Have you taken telecourses at other colleges?
___ Yes (Where?) _____
___ No

20. In how many telecourses have you received a grade of C or better?
_____

21. Which best describes your study habits?
___ I prefer to study with other students
___ I prefer to study by myself.

22. When a course is difficult, where do you primarily seek help?
___ the instructor
___ classmates
___ tutors
___ other (Please specify) _____

23. How many hours of your free time do you spend watching TV each week?
_____

24. How many hours of your free time do you spend reading each week?
_____

25. Are you taking this telecourse with a friend or relative?
___ Yes
___ No

26. What is your major?
_____

27. Why have you enrolled in this TV course instead of in the on-campus course?
_____

APPENDIX B

Questionnaire: Student Satisfaction

SADDLEBACK COLLEGE TELECOURSE QUESTIONNAIRE

The purpose of this questionnaire is to evaluate the telecourse program. Your responses are necessary to planning improvements in the quality of telecourse programs offered at Saddleback College. Please respond to the questions on the basis of your experiences this semester.

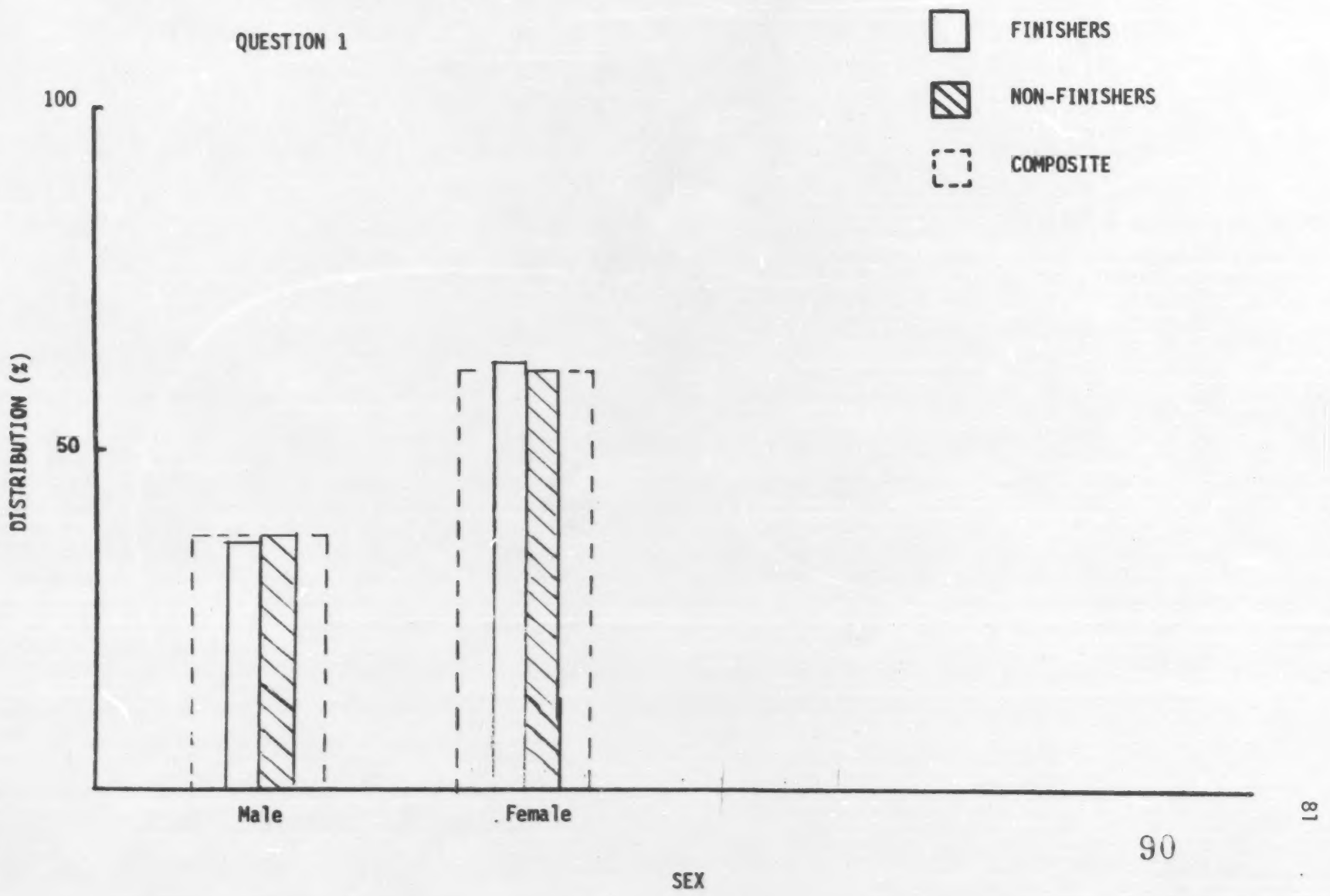
Please respond to the extent to which you agree or disagree with the following statements. Mark an "X" in the box which best represents how you feel about the statement.

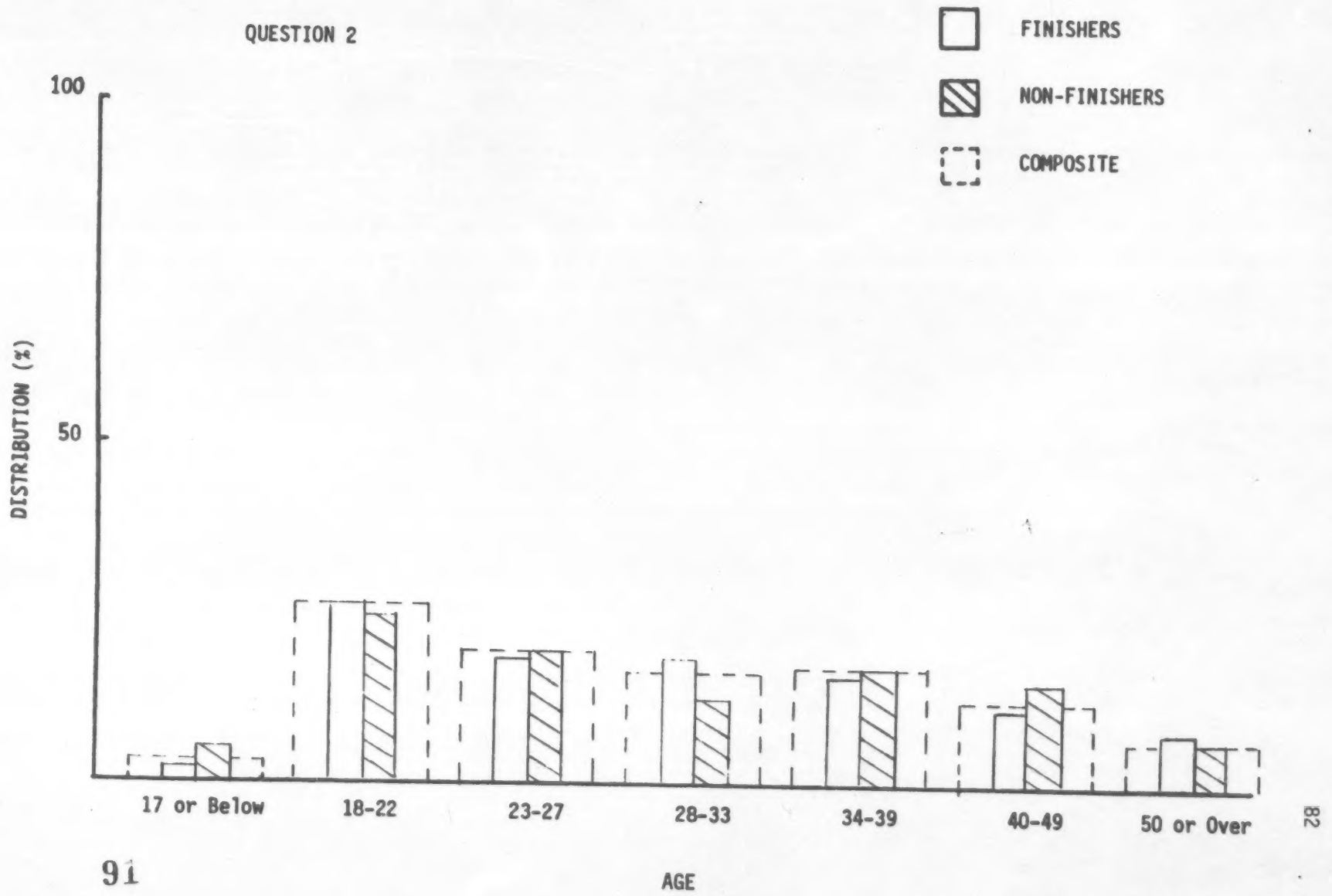
		Strongly Agree	Mostly Agree	Mildly Agree	Mildly Disagree	Mostly Disagree	Strongly Disagree
1.	I am pleased that I took this telecourse instead of the equivalent on-campus course.	( )	( )	( )	( )	( )	( )
2.	The telecourse taught me more than the equivalent on-campus course.	( )	( )	( )	( )	( )	( )
3.	The telecourse was less work than the equivalent on-campus course.	( )	( )	( )	( )	( )	( )
4.	The telecourse was graded easier than the equivalent on-campus course.	( )	( )	( )	( )	( )	( )
5.	If a future class I plan to take is offered both by telecourse and on-campus, I will take the telecourse.	( )	( )	( )	( )	( )	( )
6.	I would definitely recommend this course to a friend.	( )	( )	( )	( )	( )	( )

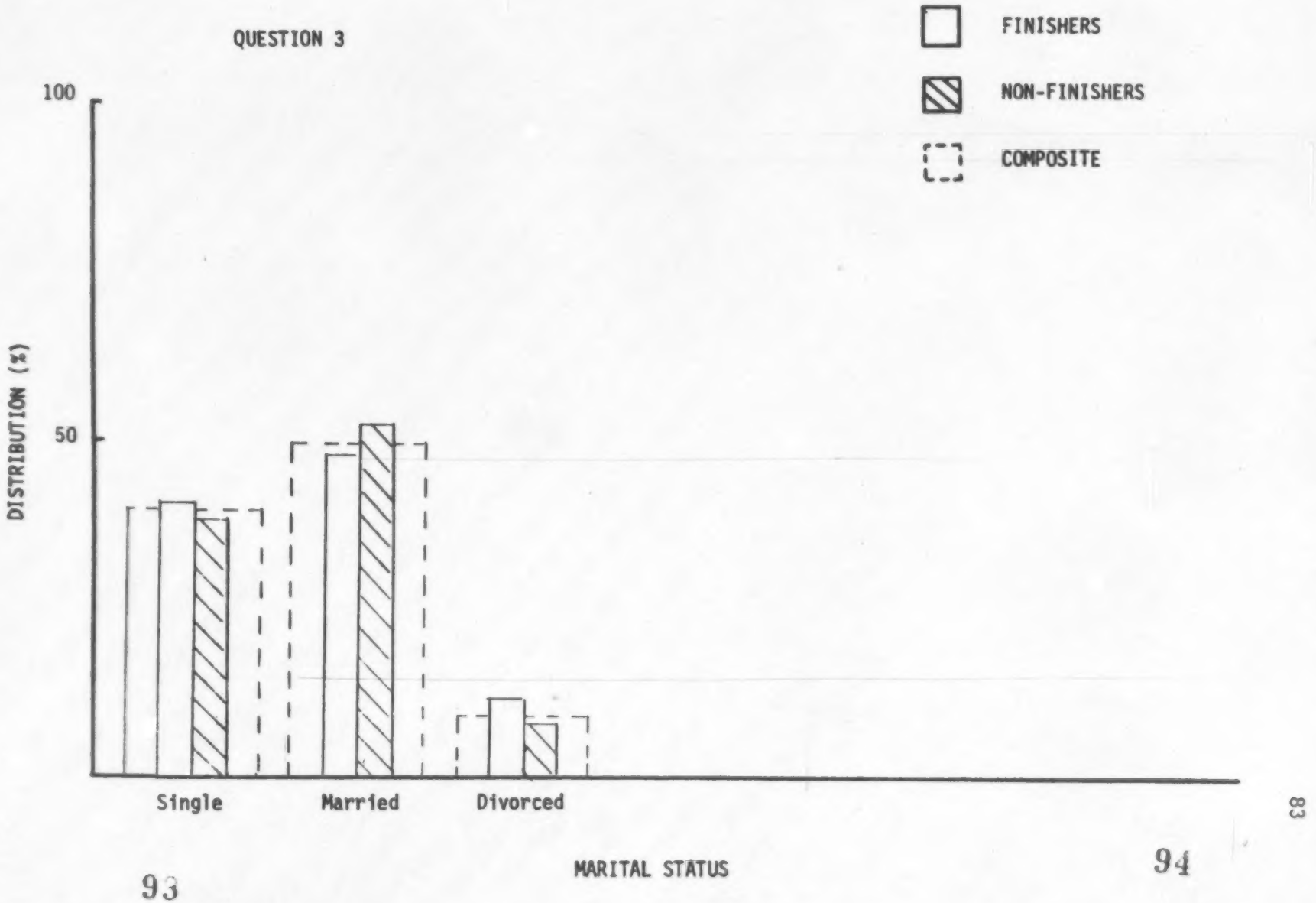
Please note any comments or suggestions below.
Thank you for assisting us with this evaluation.

APPENDIX C

GRAPHS OF QUESTIONNAIRE RESPONSES


QUESTION 1
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Male
Female
SEX


QUESTION 2
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
17 or Below
18-22
23-27
28-33
34-39
40-49
50 or Over
AGE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FINISHERS
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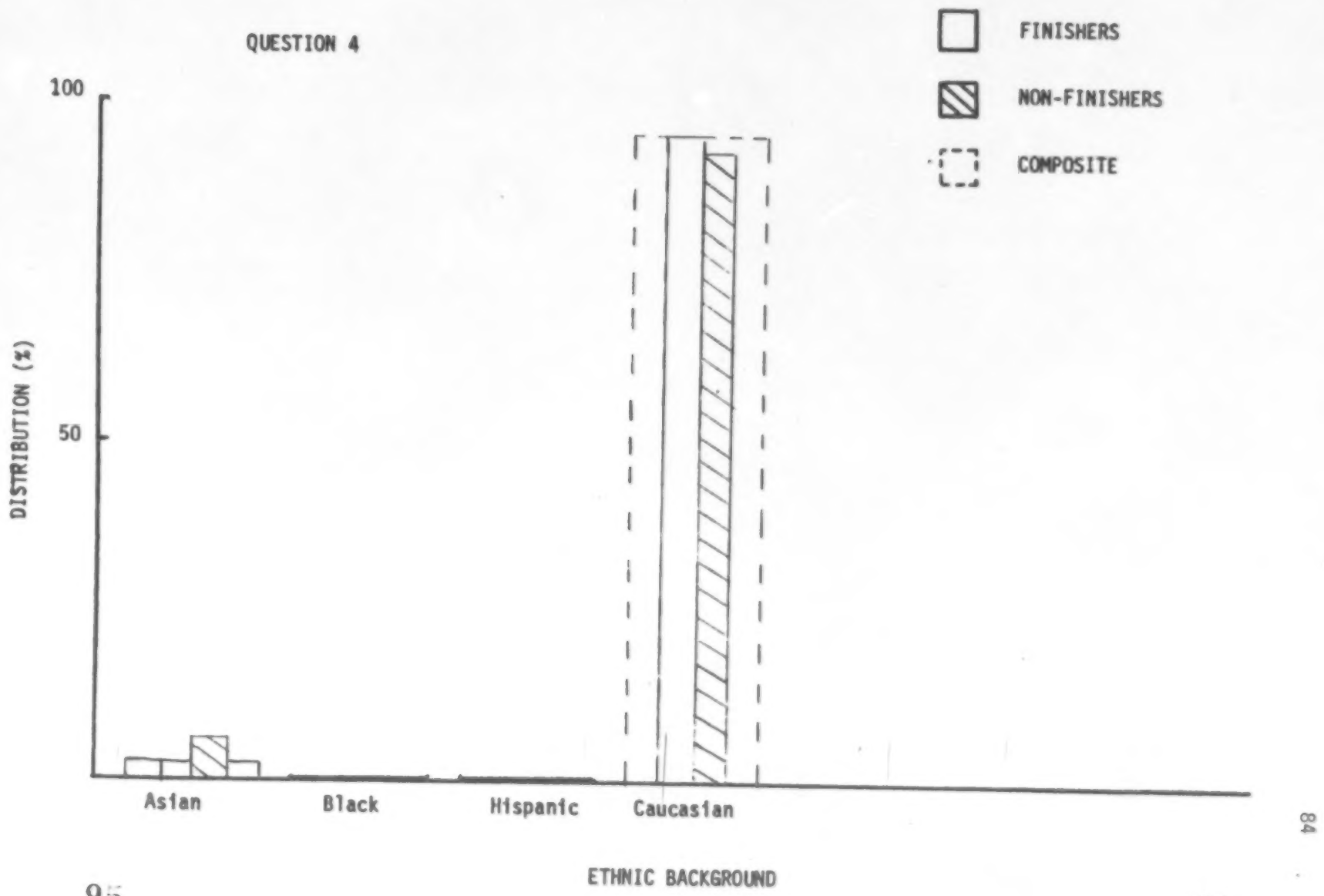
COMPOSITE
100
50
DISTRIBUTION (%)
Single
Married
Divorced
MARITAL STATUS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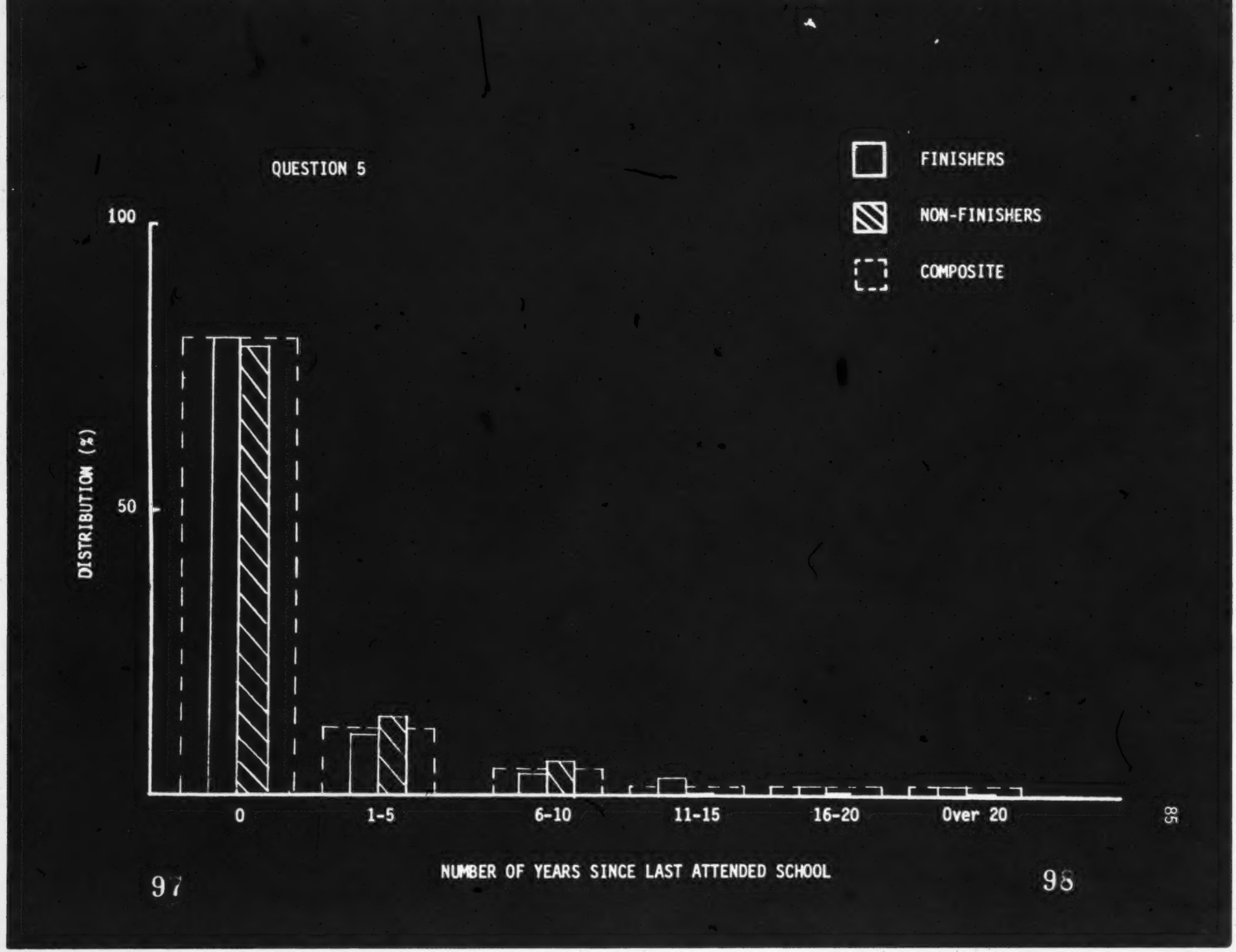
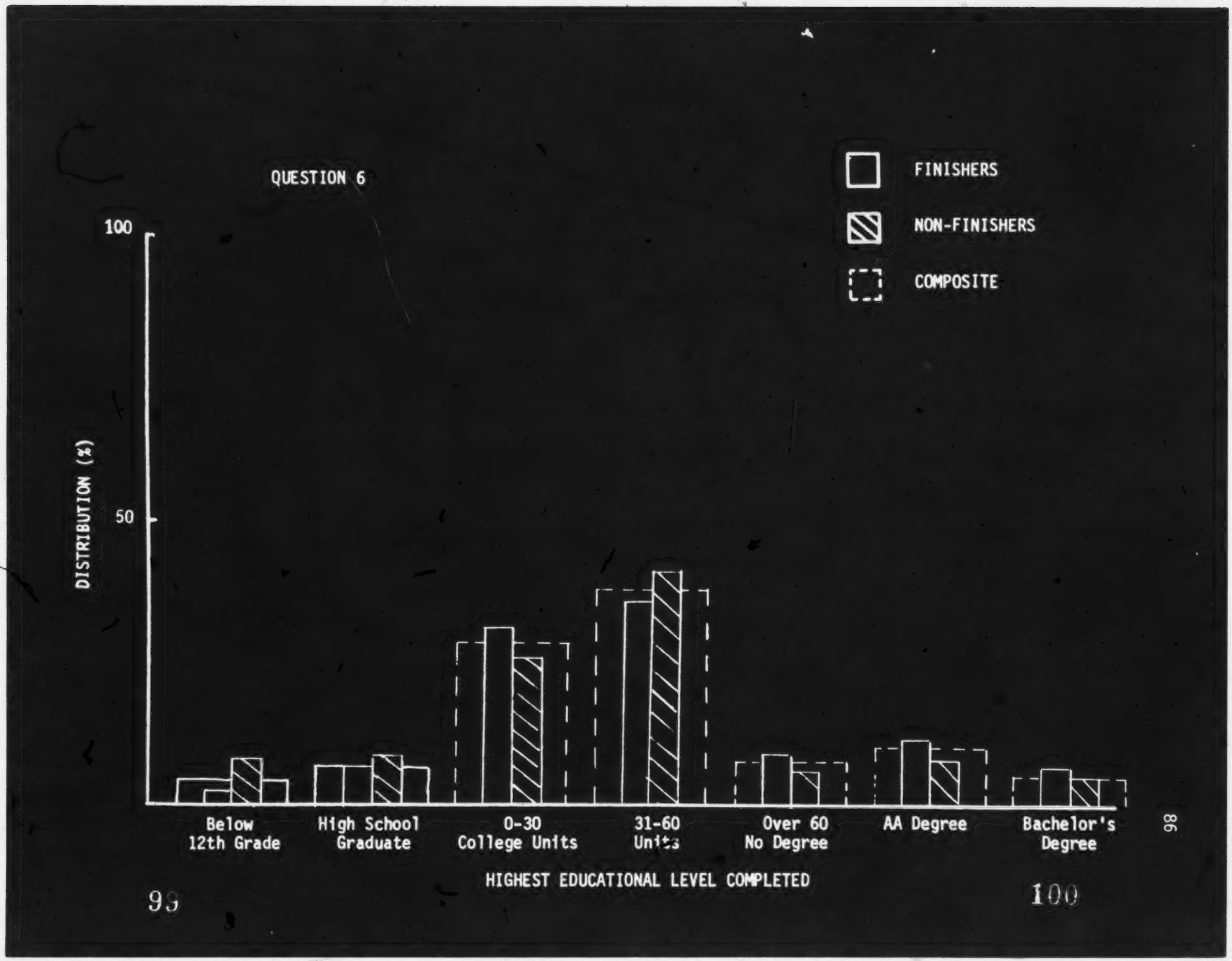
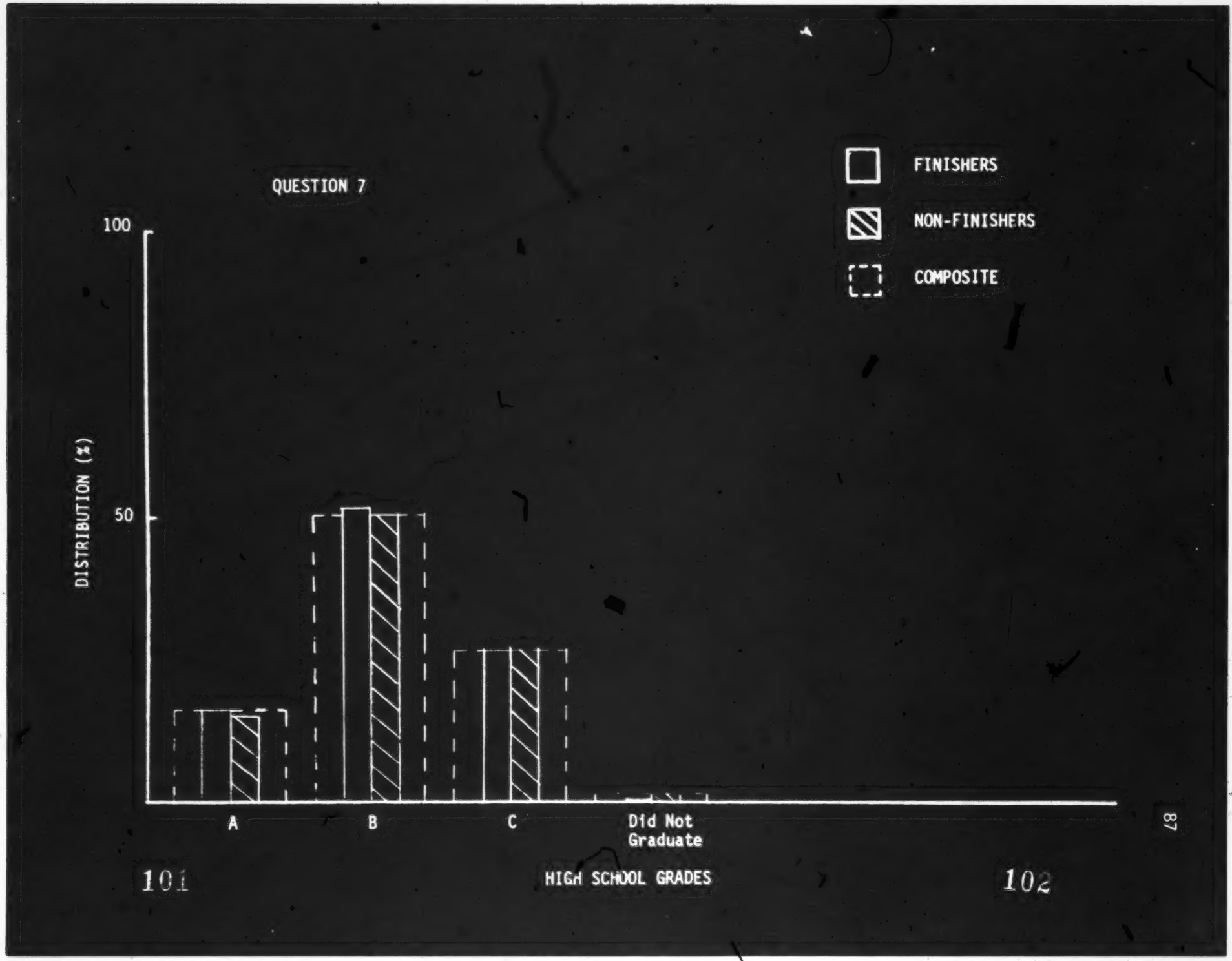
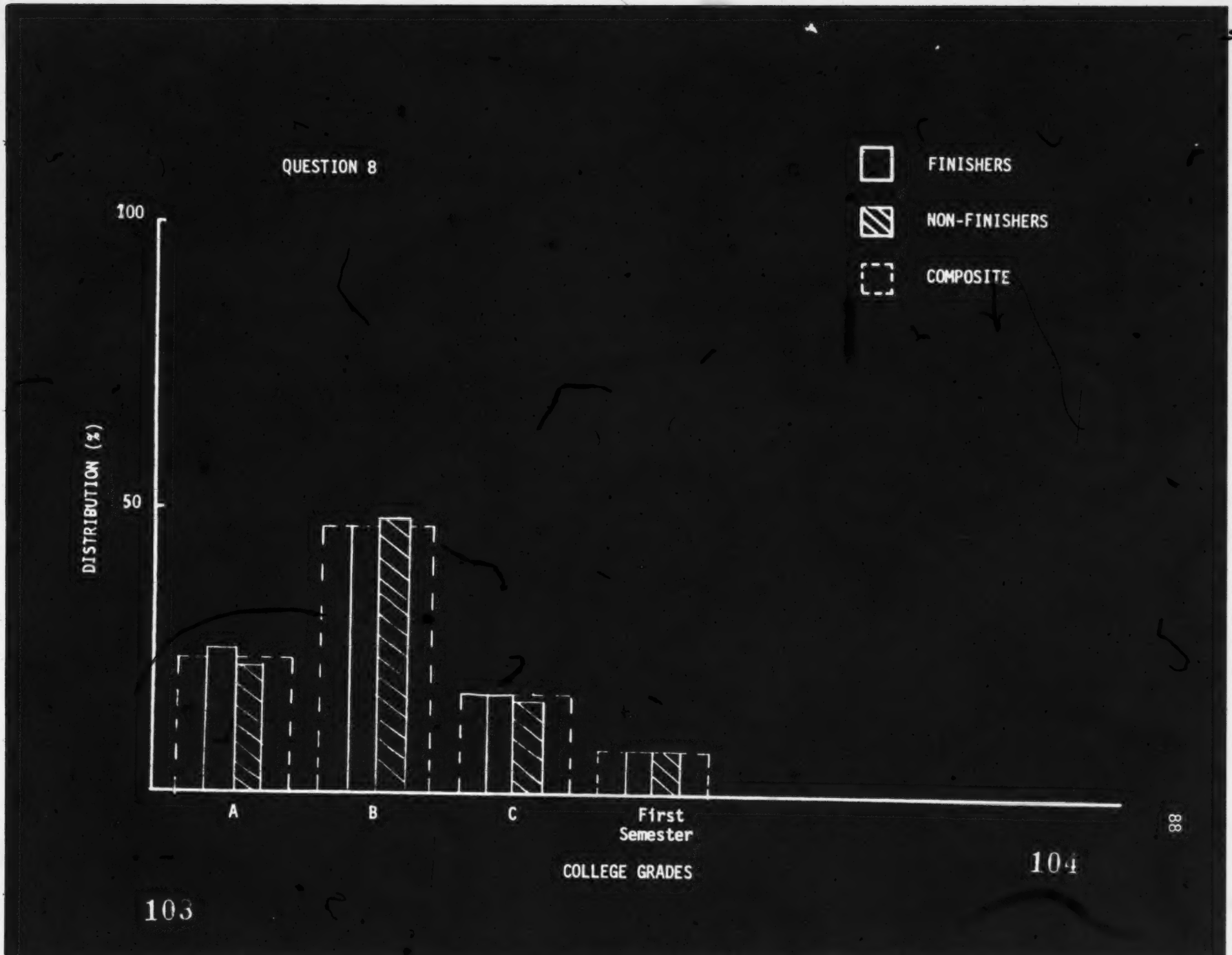
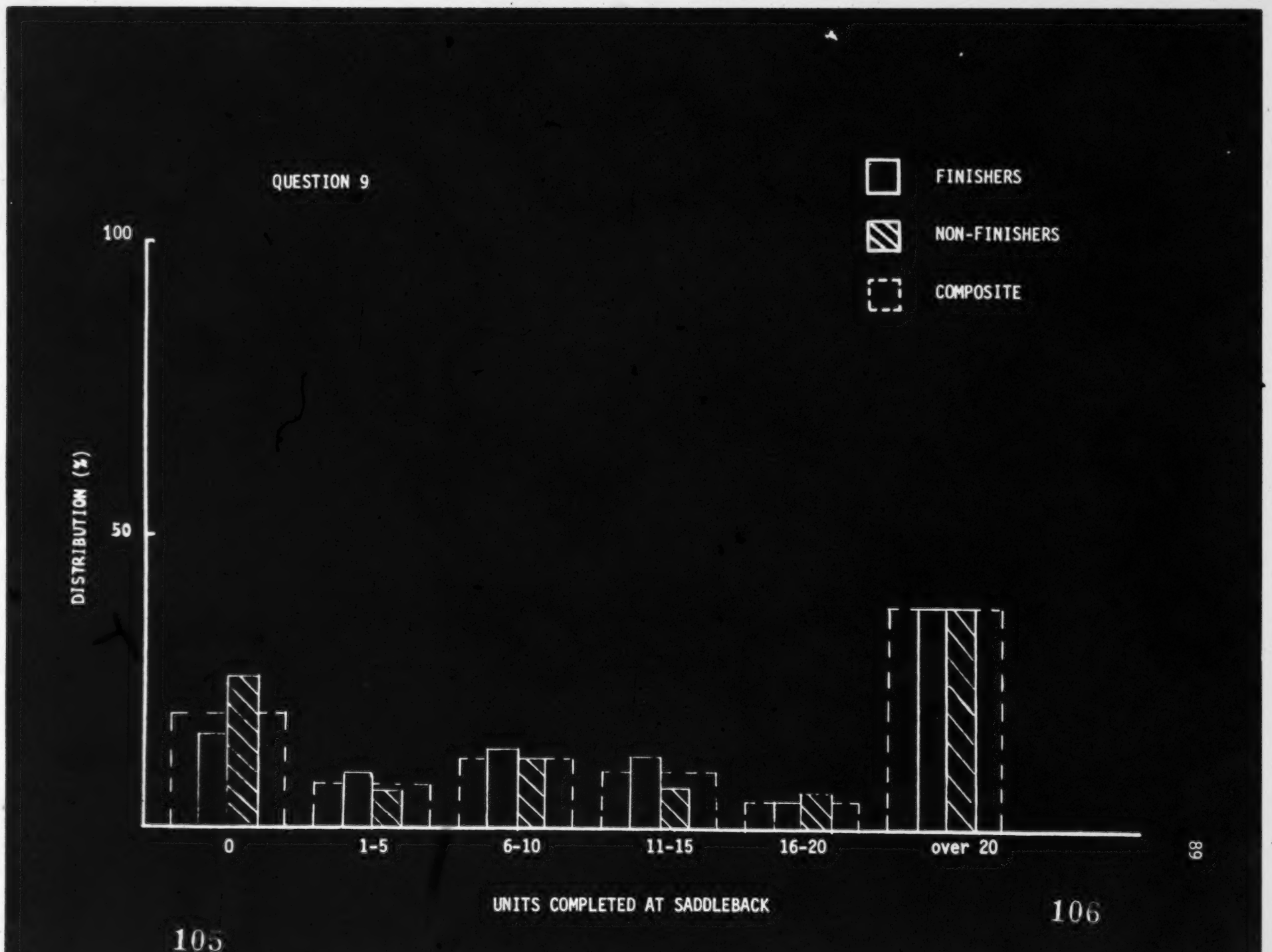
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Asian
Black
Hispanic
Caucasian
ETHNIC BACKGROUND

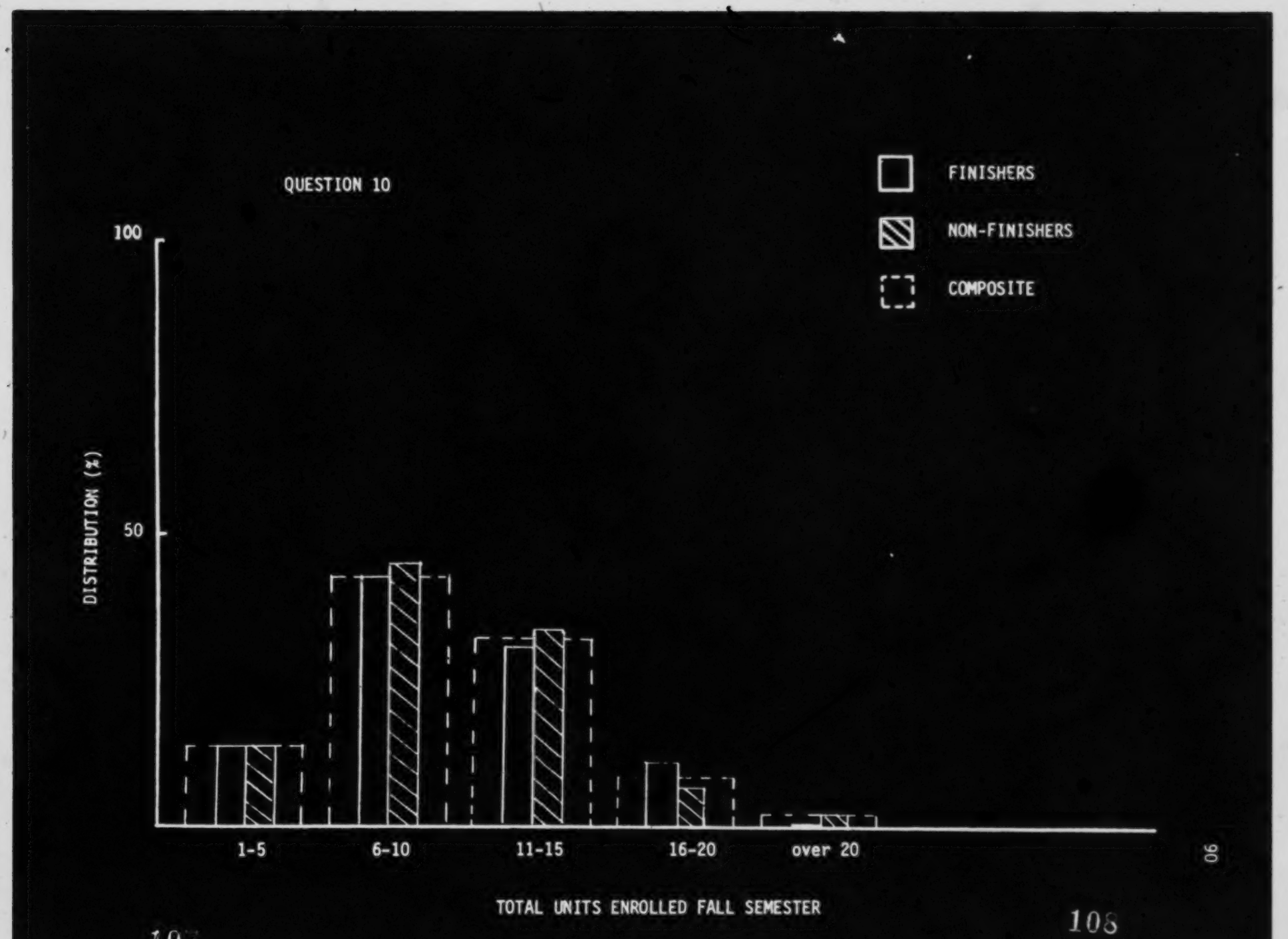

QUESTION 5
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
0
1-5
6-10
11-15
16-20
Over 20
NUMBER OF YEARS SINCE LAST ATTENDED SCHOOL
85

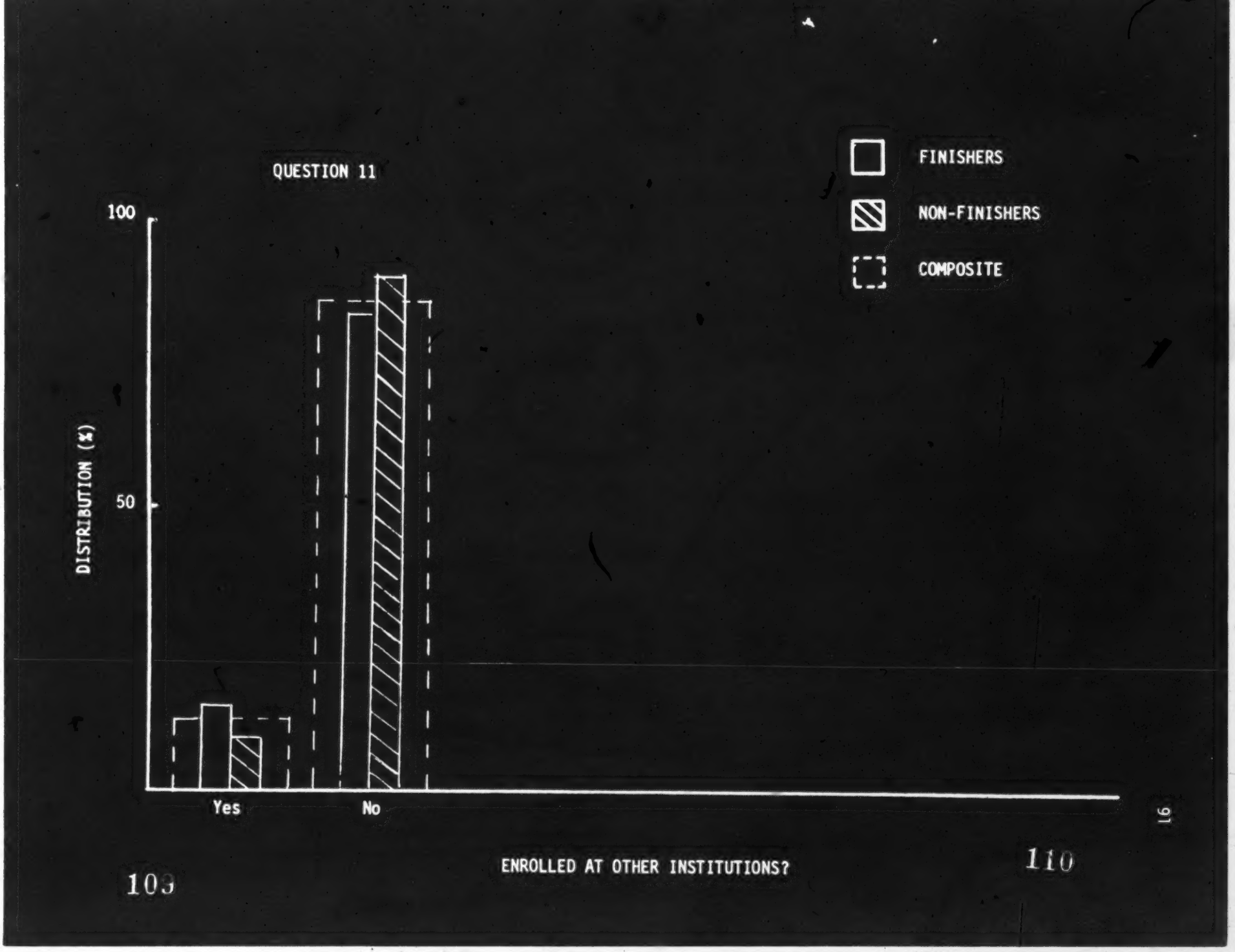

QUESTION 6
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Below 12th Grade
High School Graduate
0-30 College Units
31-60 Units
Over 60 No Degree
AA Degree
Bachelor's Degree
HIGHEST EDUCATIONAL LEVEL COMPLETED
86

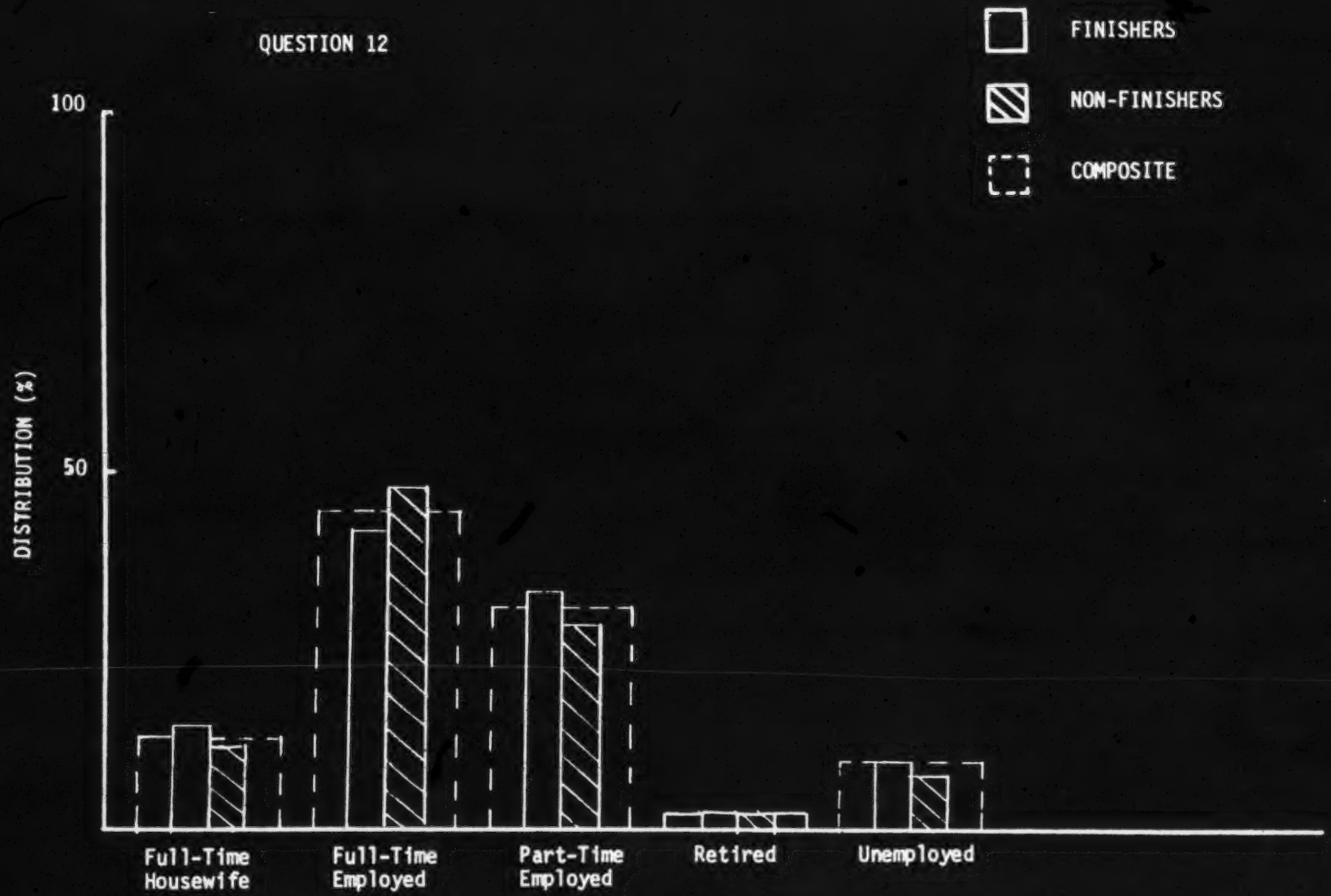

QUESTION 7
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
A
B
C
Did Not Graduate
HIGH SCHOOL GRADES
101
102
87

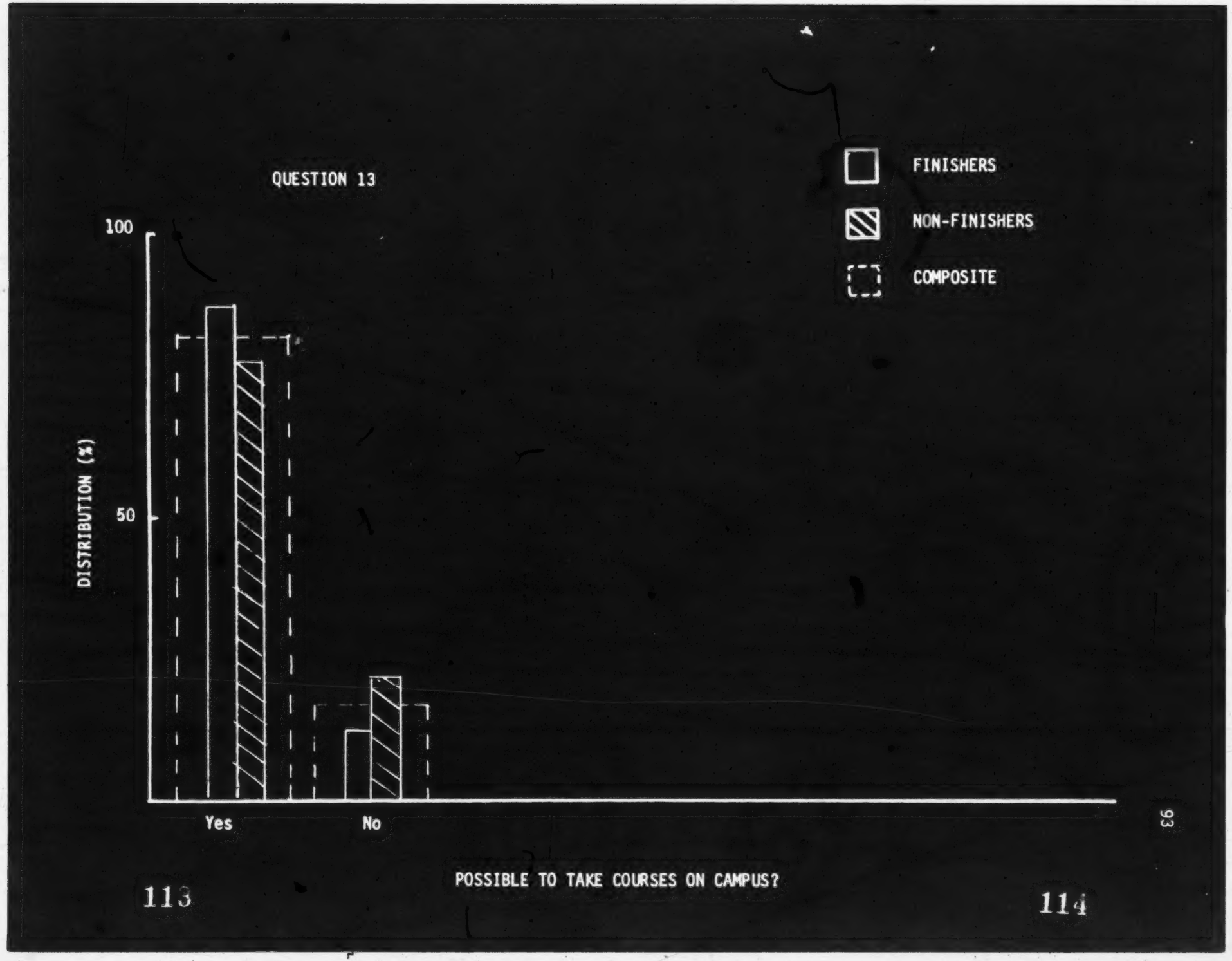

QUESTION 8
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
A
B
C
First Semester
COLLEGE GRADES


QUESTION 9
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
0
1-5
6-10
11-15
16-20
over 20
UNITS COMPLETED AT SADDLEBACK
89


QUESTION 10
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
1-5
6-10
11-15
16-20
over 20
TOTAL UNITS ENROLLED FALL SEMESTER


QUESTION 11
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Yes
No
ENROLLED AT OTHER INSTITUTIONS?


QUESTION 12
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Full-Time Housewife
Full-Time Employed
Part-Time Employed
Retired
Unemployed
PRIMARY OCCUPATIONAL STATUS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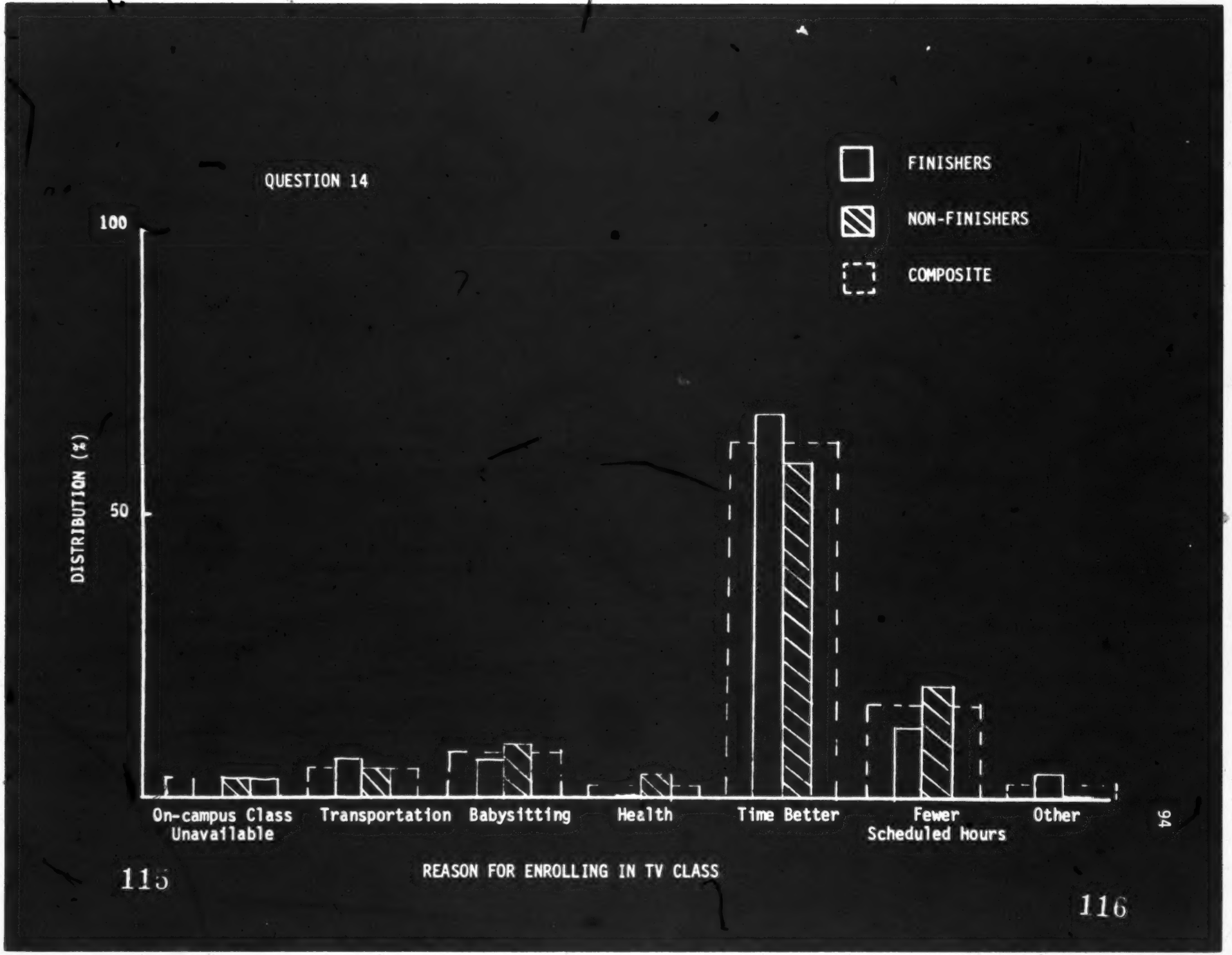
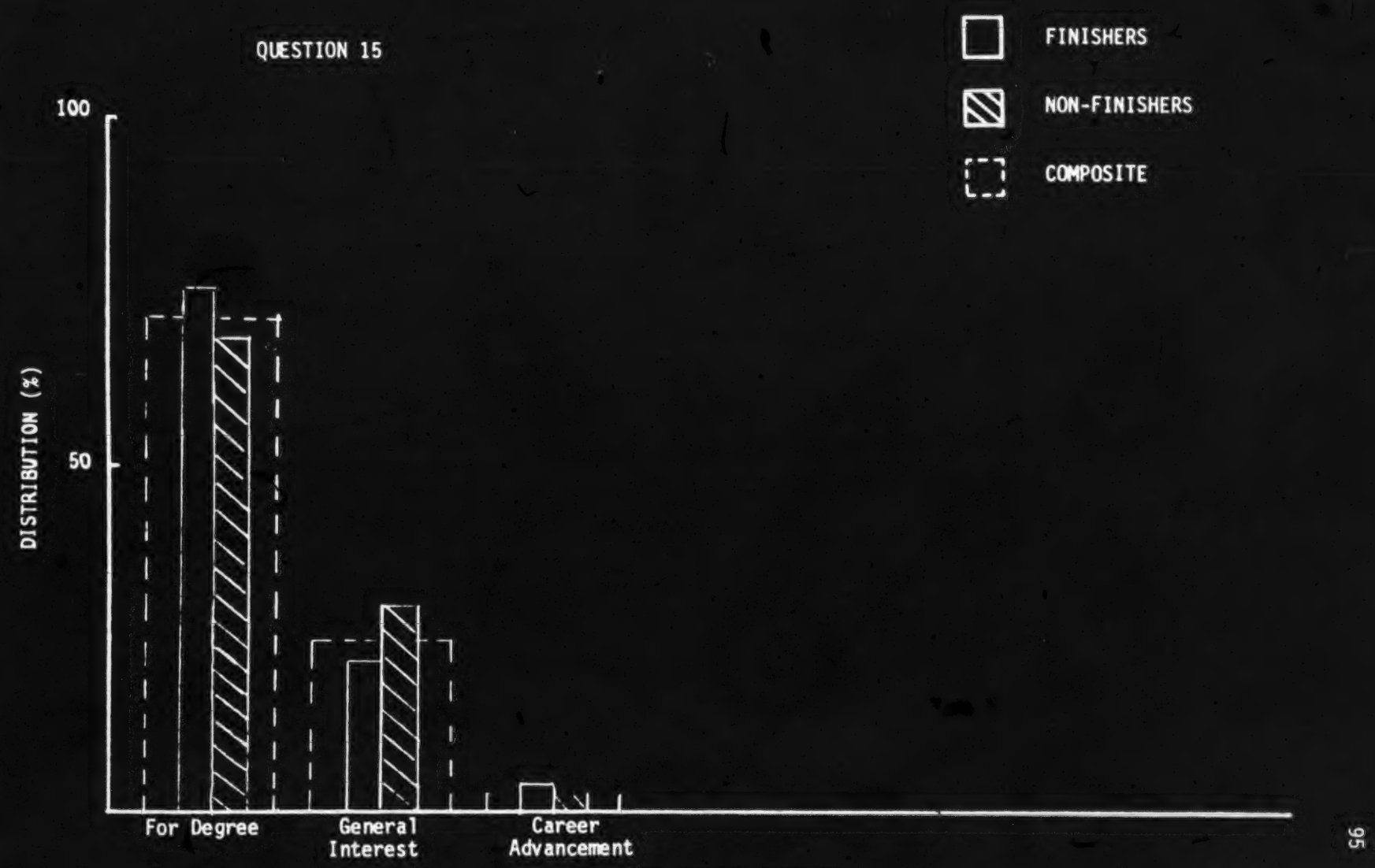
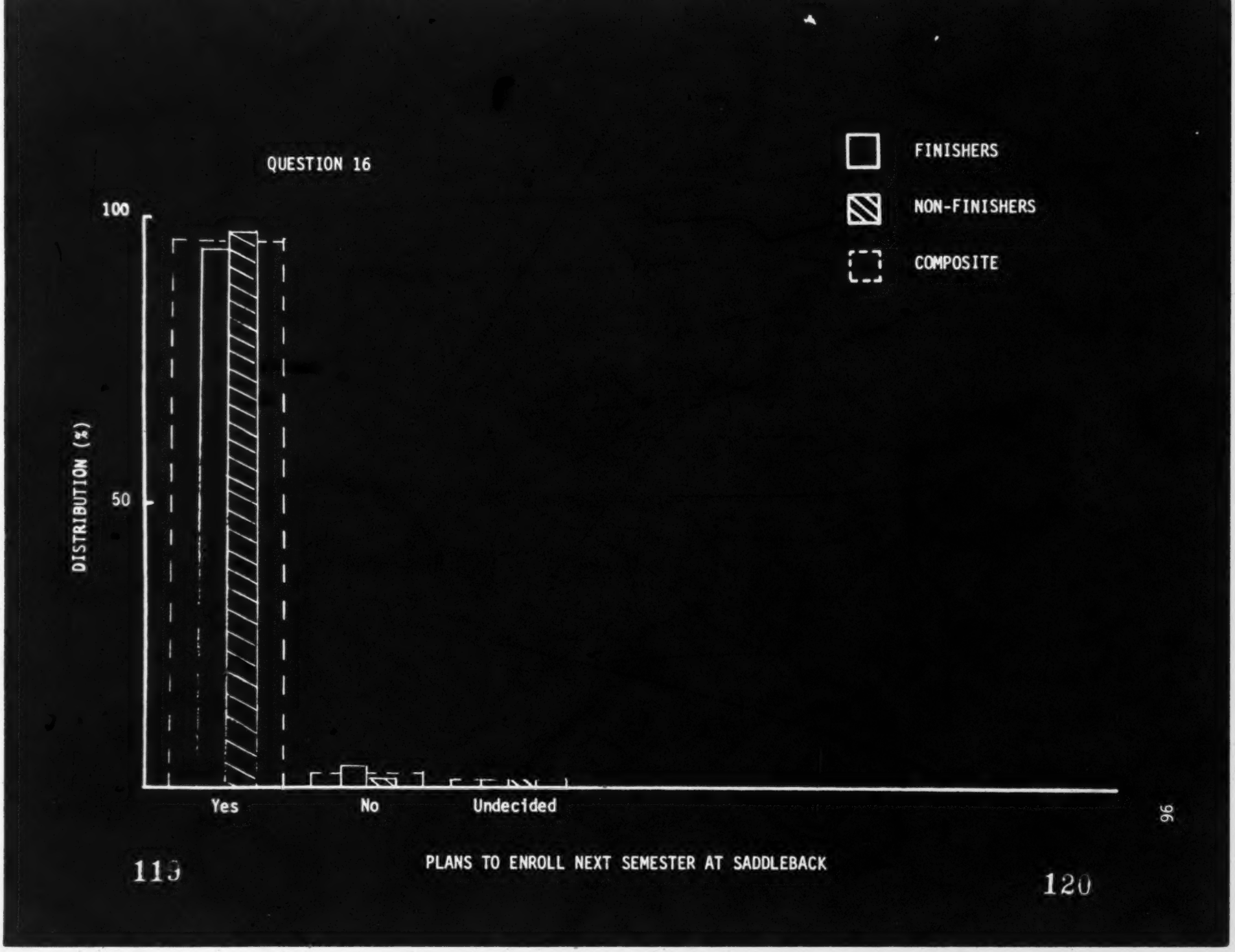
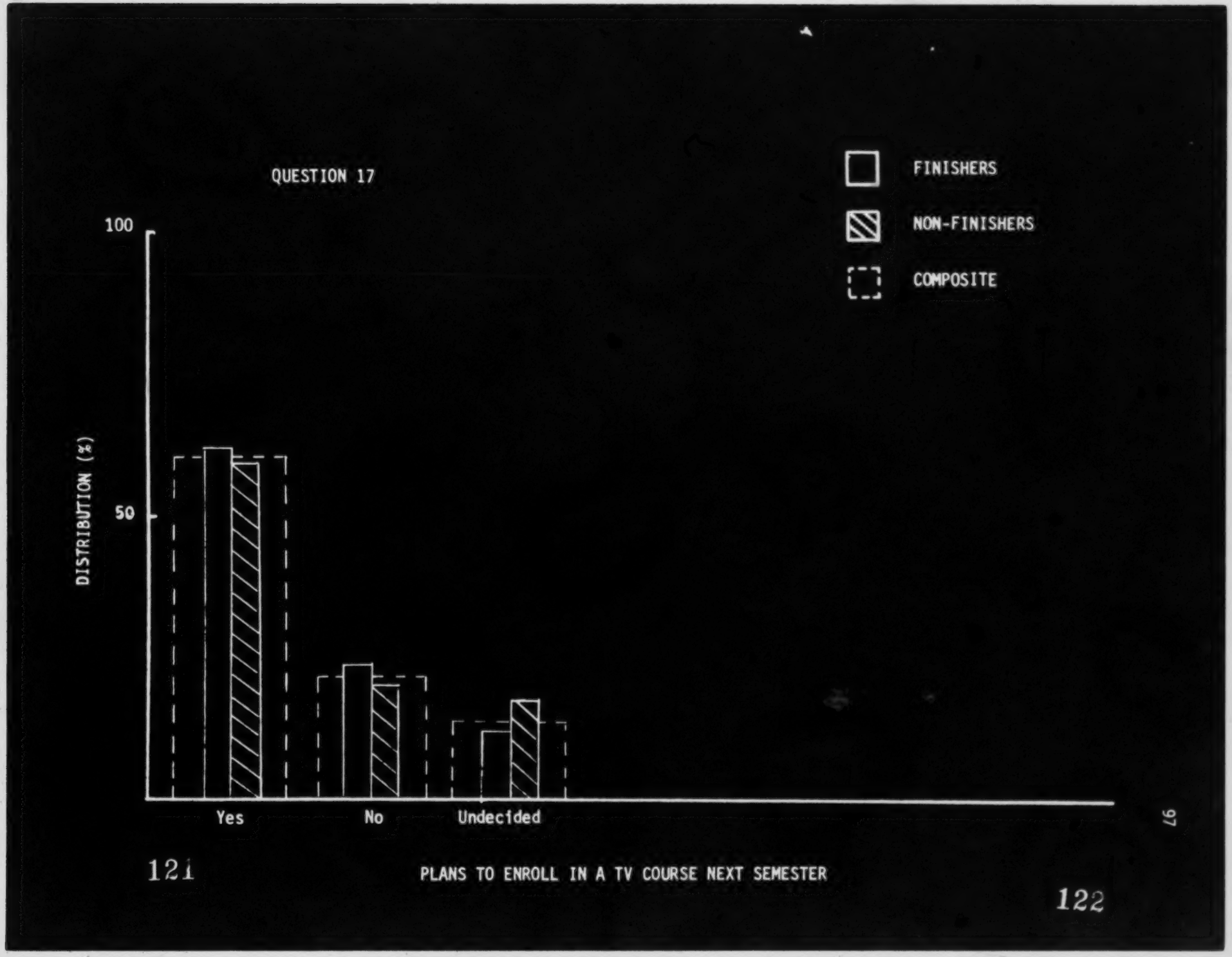
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Yes
No
POSSIBLE TO TAKE COURSES ON CAMPUS?
93


QUESTION 14
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
On-campus Class Unavailable
Transportation
Babysitting
Health
Time Better
Fewer Scheduled Hours
Other
REASON FOR ENROLLING IN TV CLASS


QUESTION 15
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
For Degree
General Interest
Career Advancement
REASON FOR TAKING COURSE

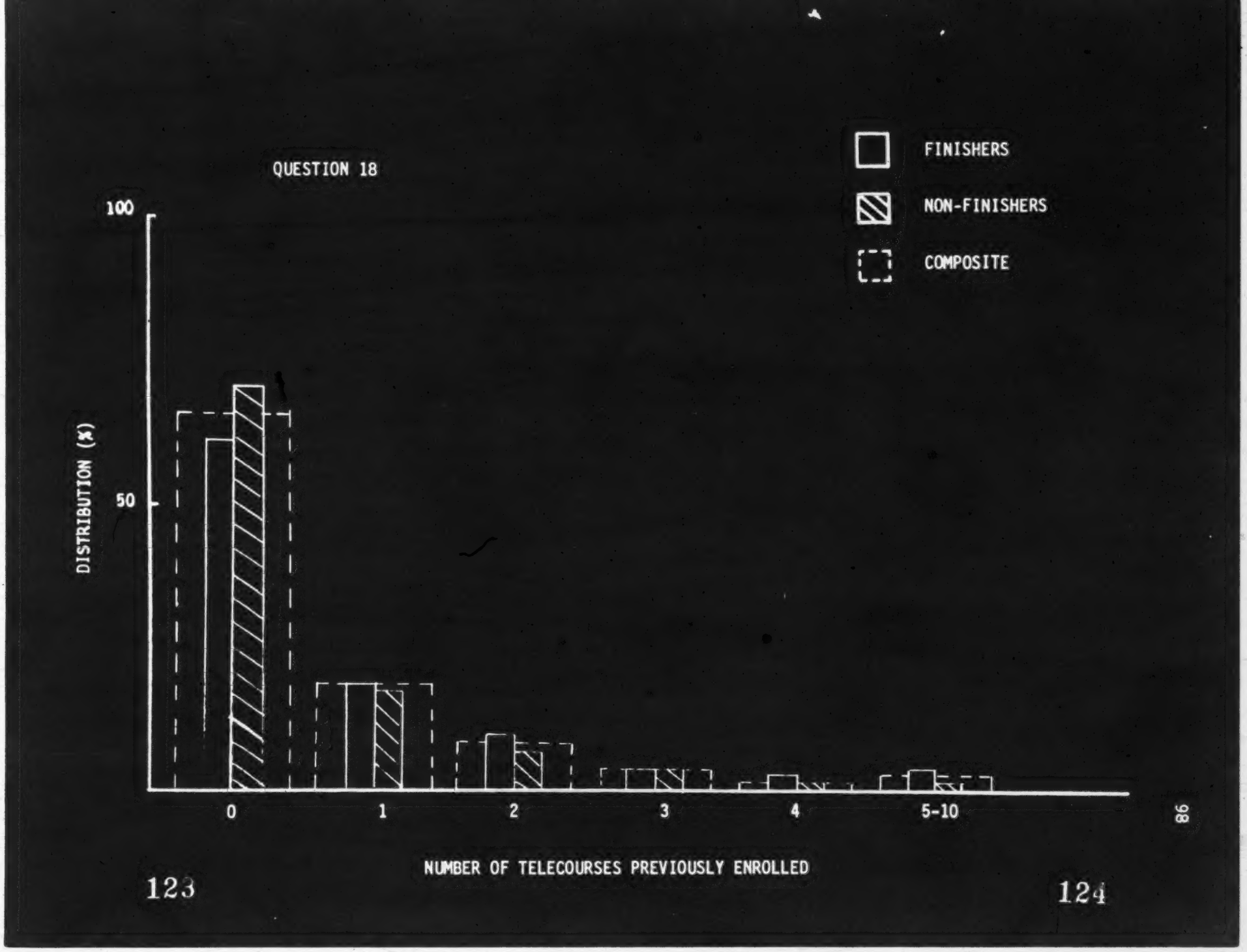

QUESTION 16
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Yes
No
Undecided
96
PLANS TO ENROLL NEXT SEMESTER AT SADDLEBACK

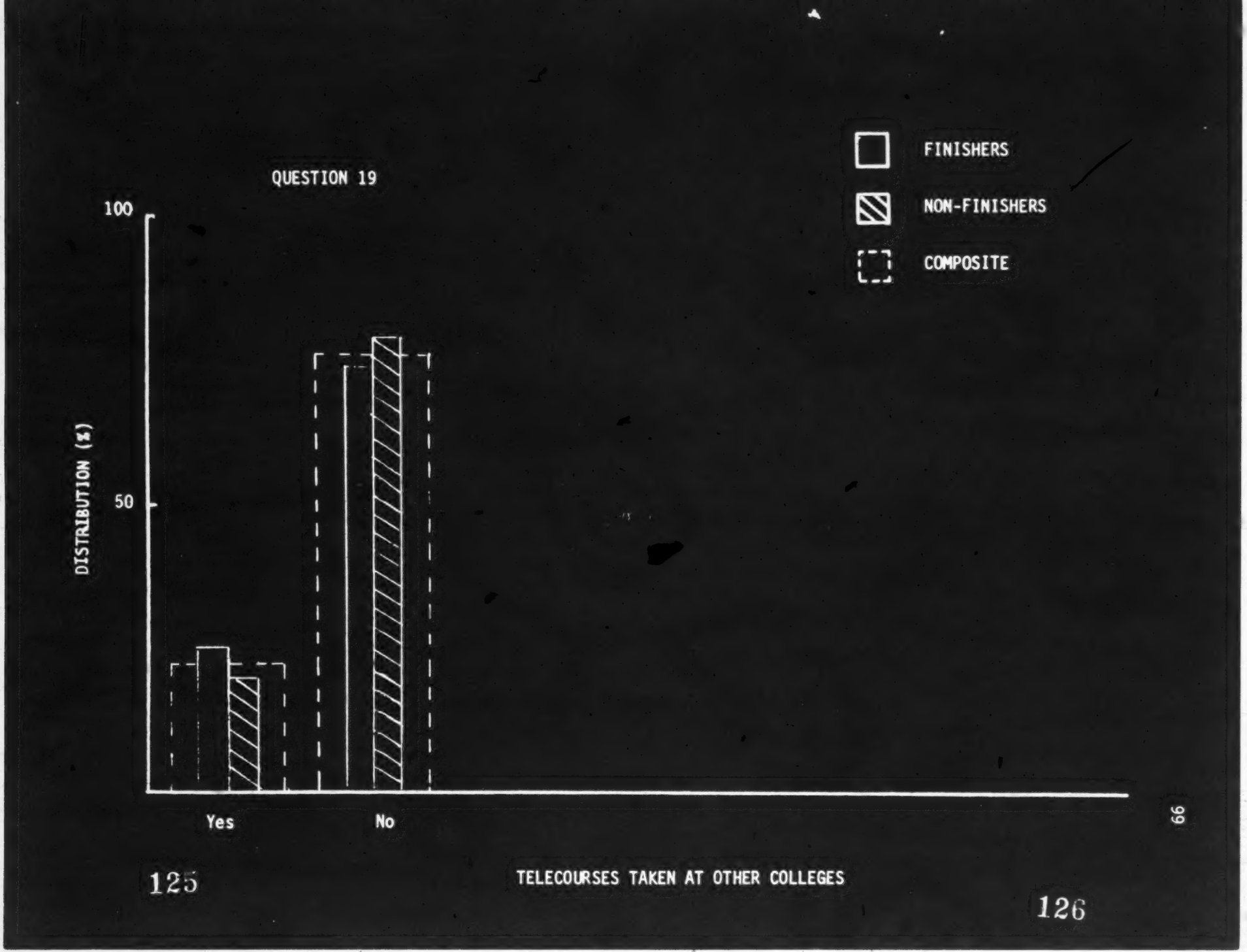


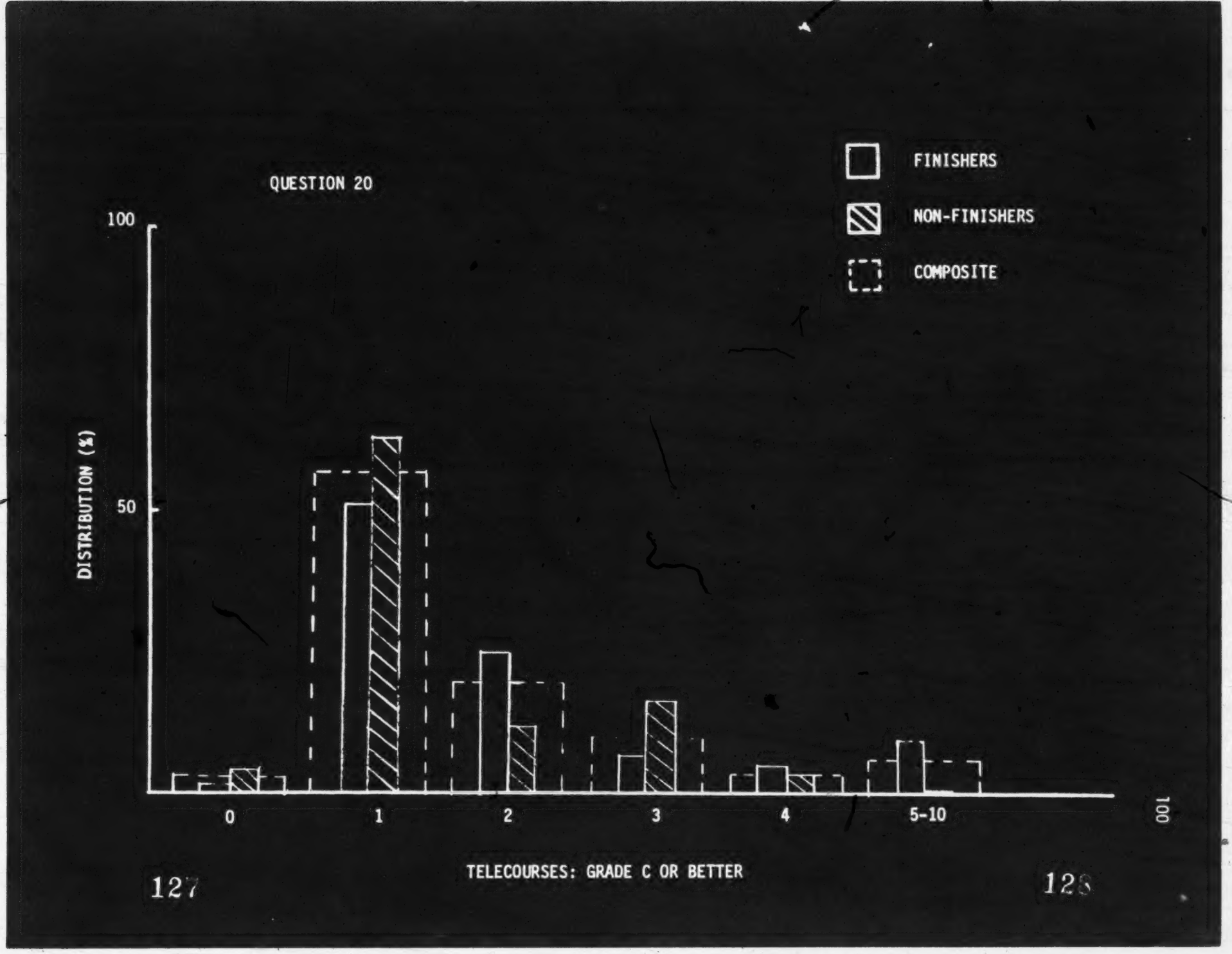
121

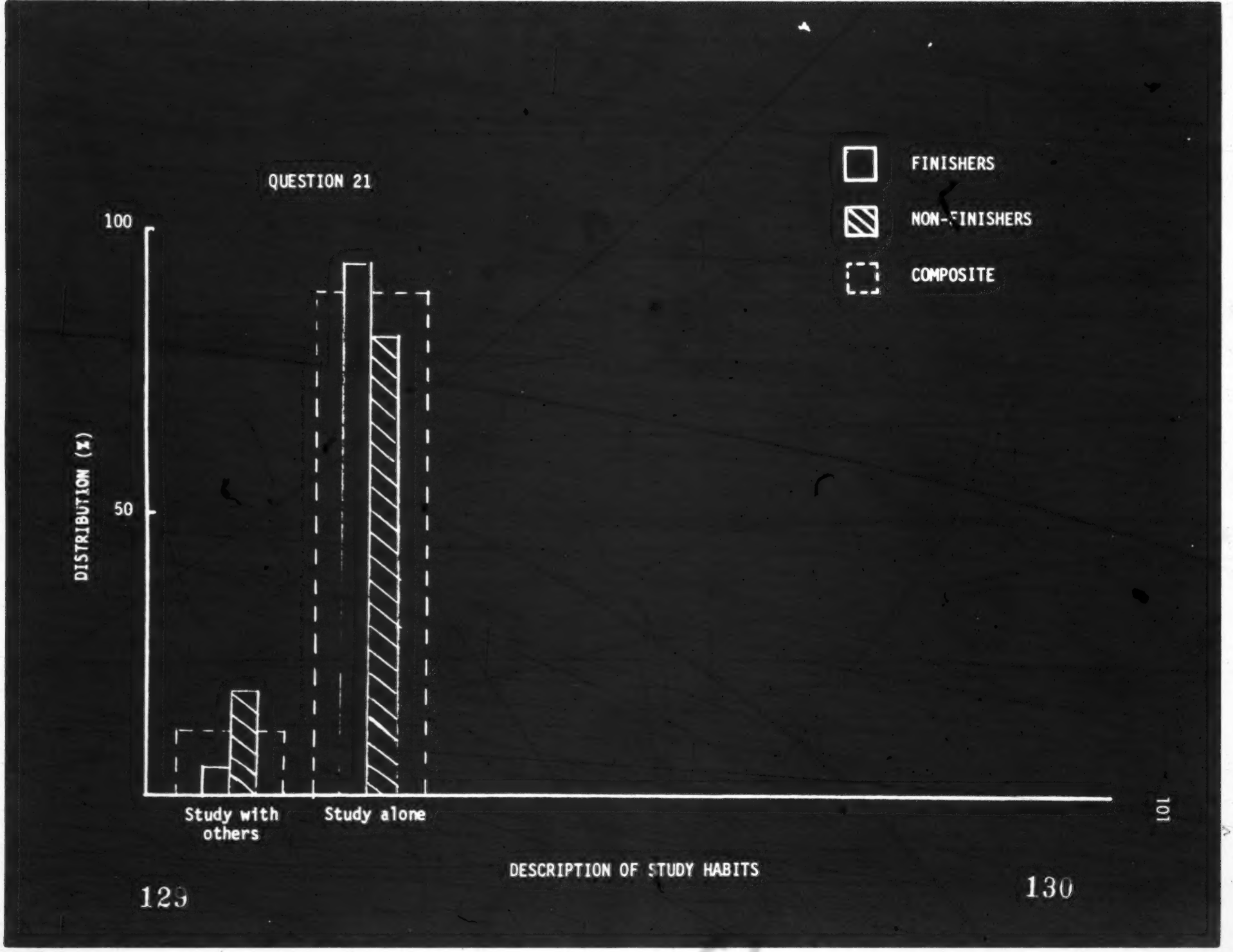
PLANS TO ENROLL IN A TV COURSE NEXT SEMESTER

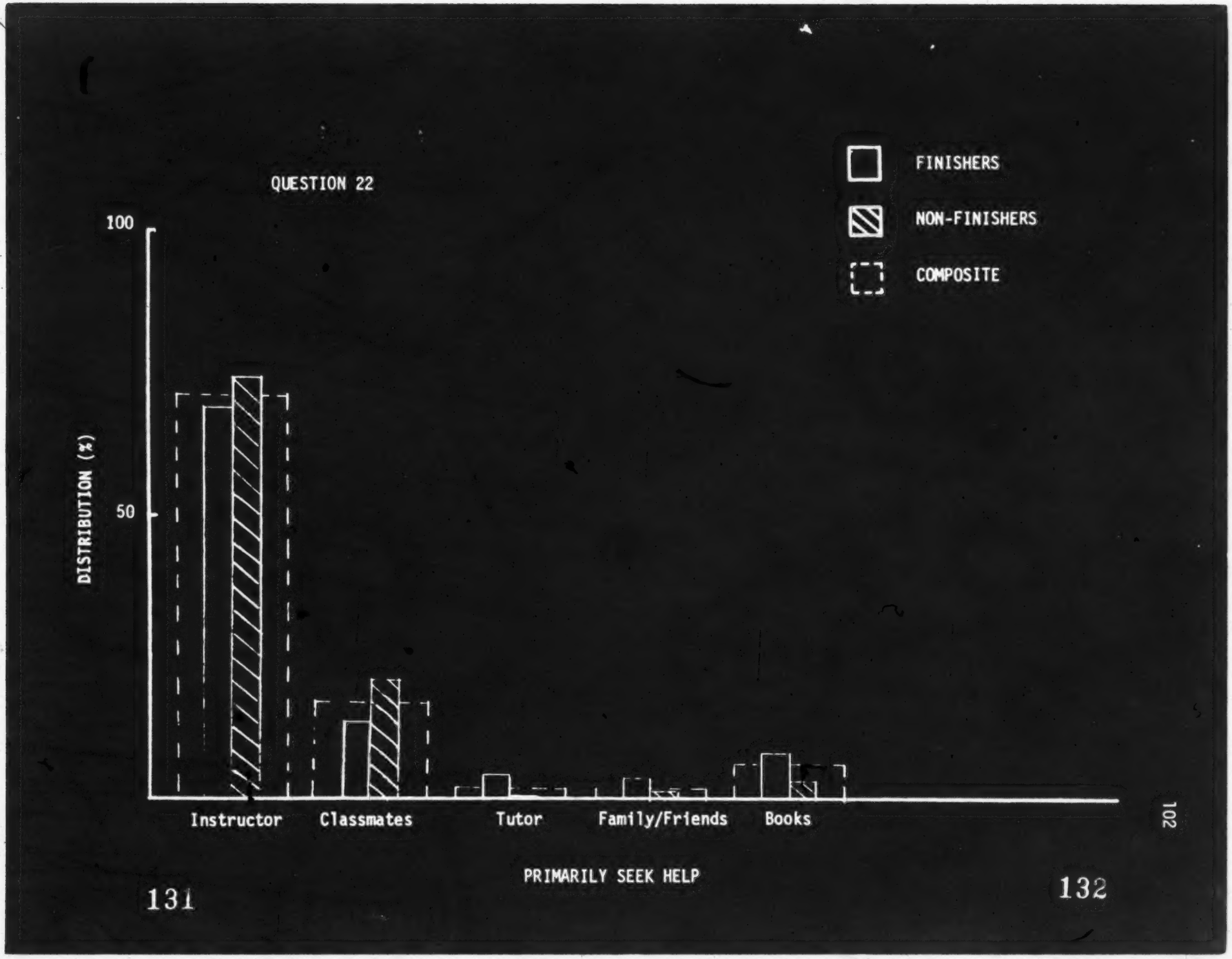
122

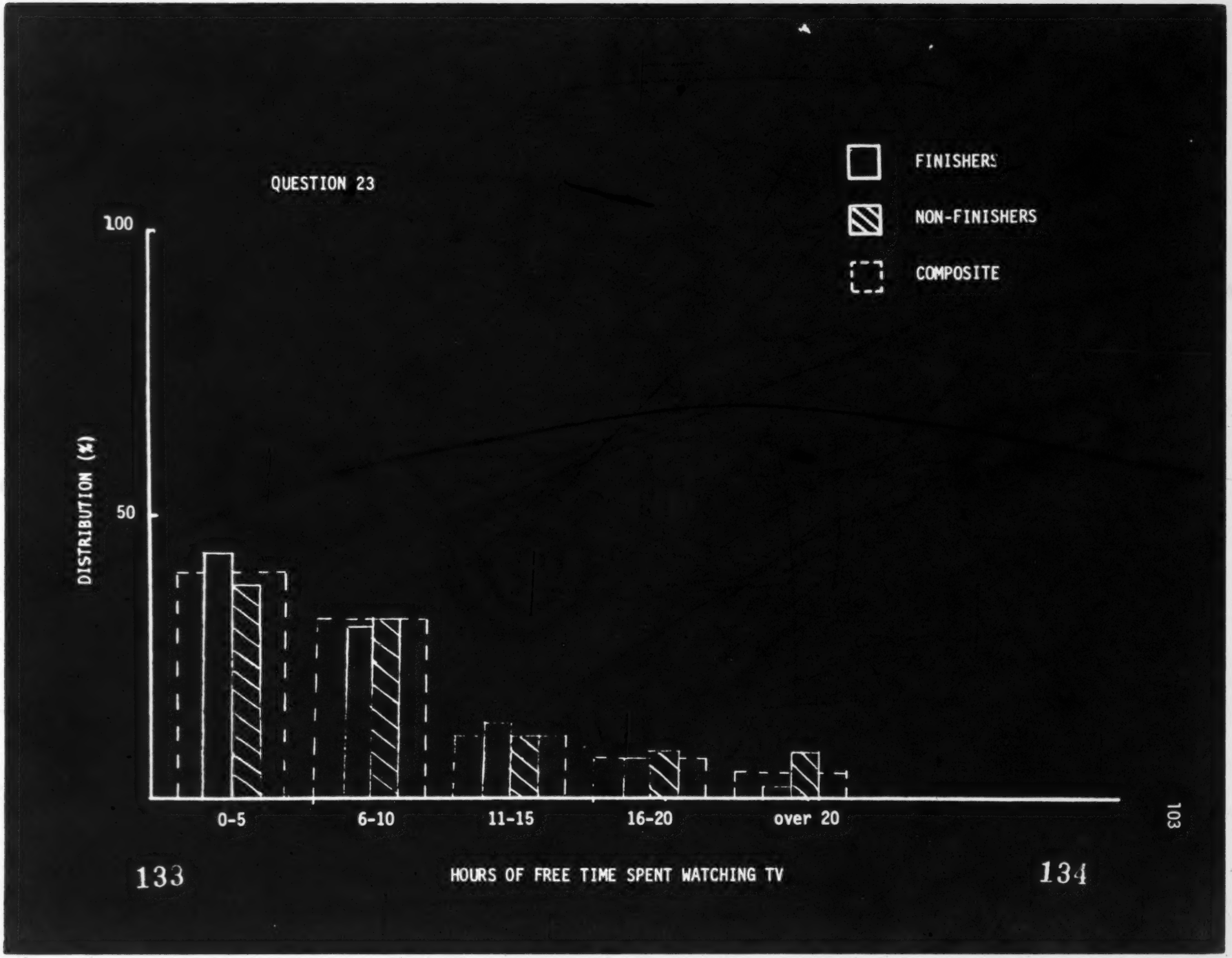

QUESTION 18
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
0
1
2
3
4
5-10
NUMBER OF TELECOURSES PREVIOUSLY ENROLLED
86


FINISHERS
NON-FINISHERS
COMPOSITE
QUESTION 19
100
50
DISTRIBUTION (%)
Yes
No
99
125
TELECOURSES TAKEN AT OTHER COLLEGES
126


QUESTION 20
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
0
1
2
3
4
5-10
100
TELECOURSES: GRADE C OR BETTER

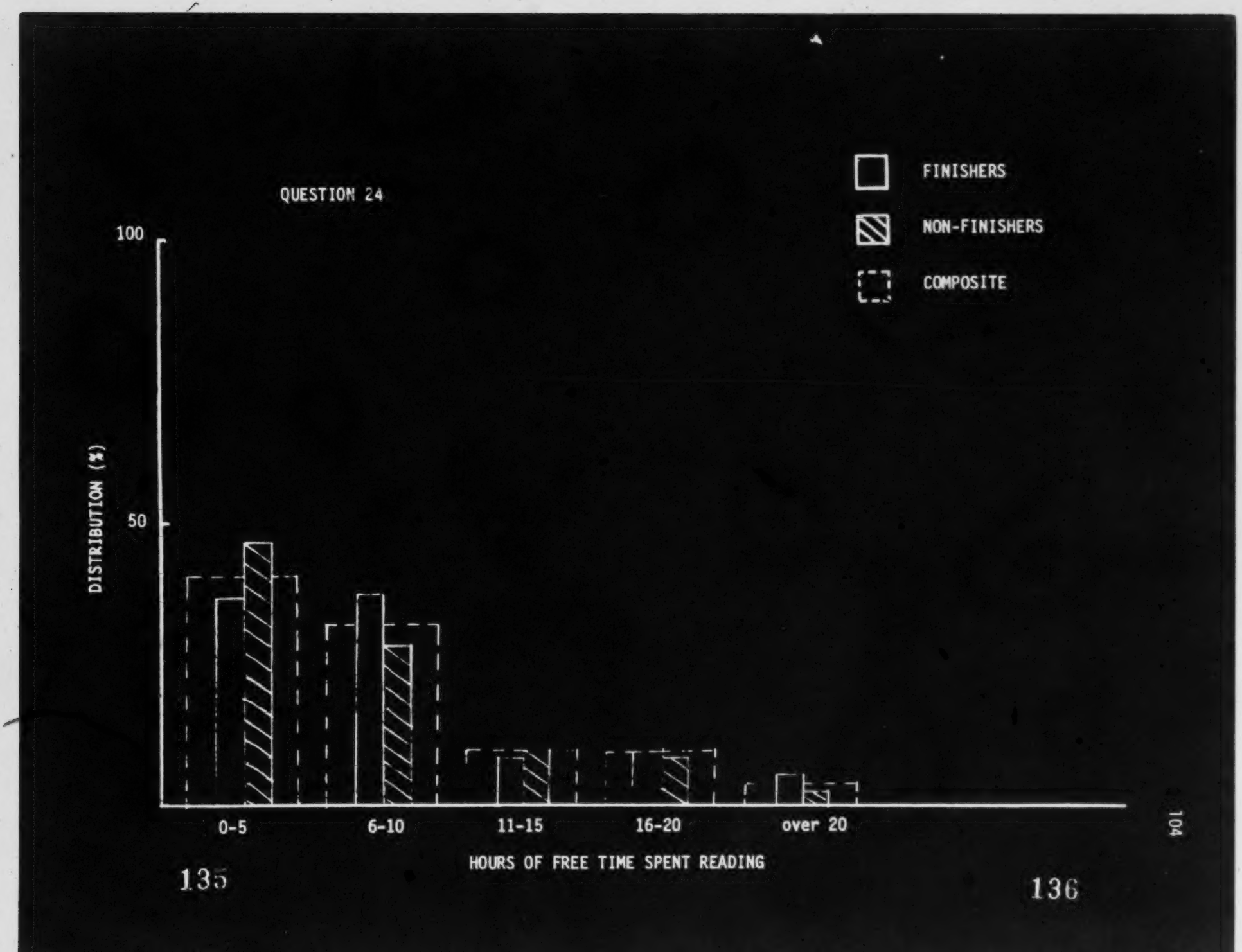

QUESTION 21
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Study with others
Study alone
DESCRIPTION OF STUDY HABITS
101

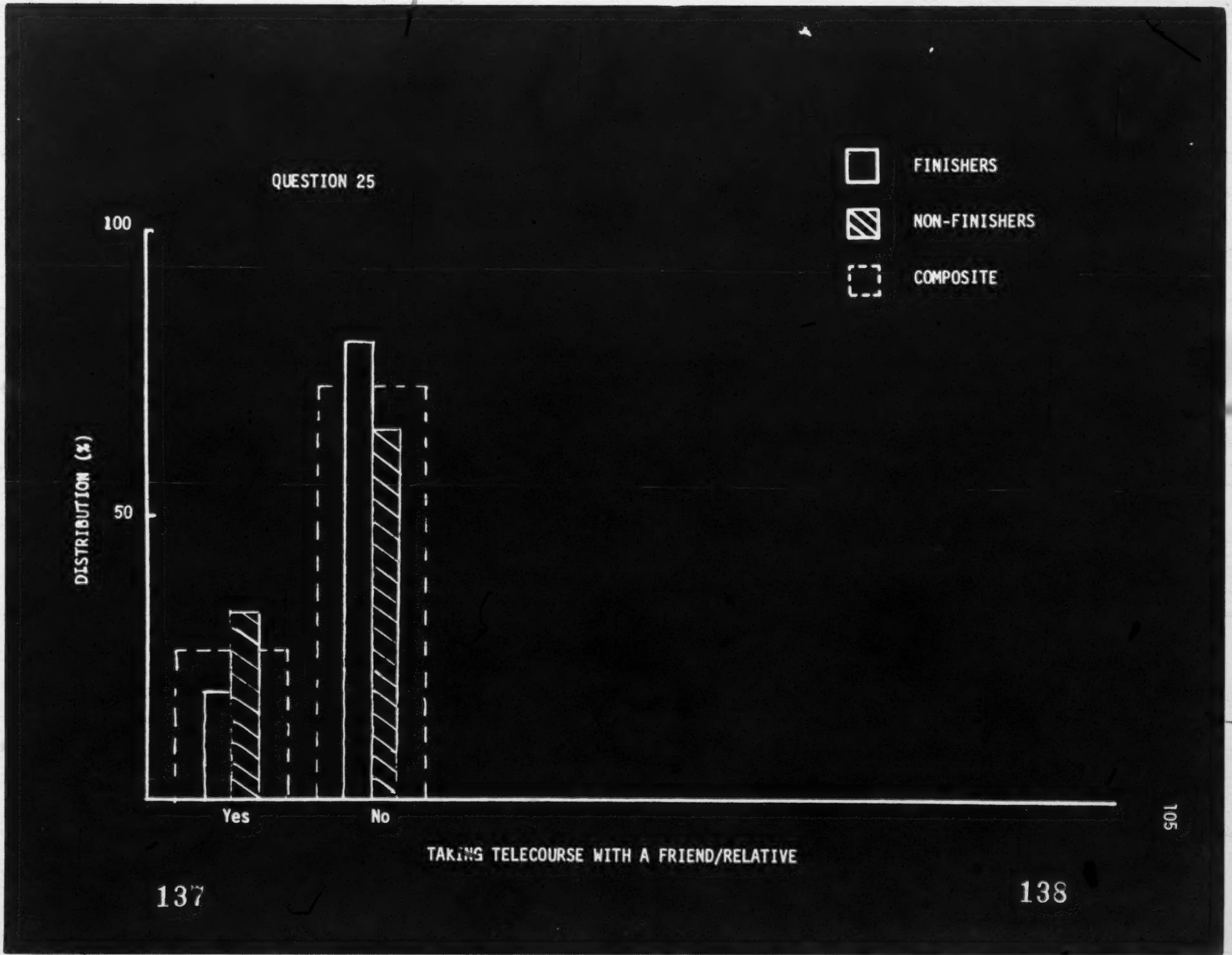

QUESTION 22
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Instructor
Classmates
Tutor
Family/Friends
Books
PRIMARILY SEEK HELP
102

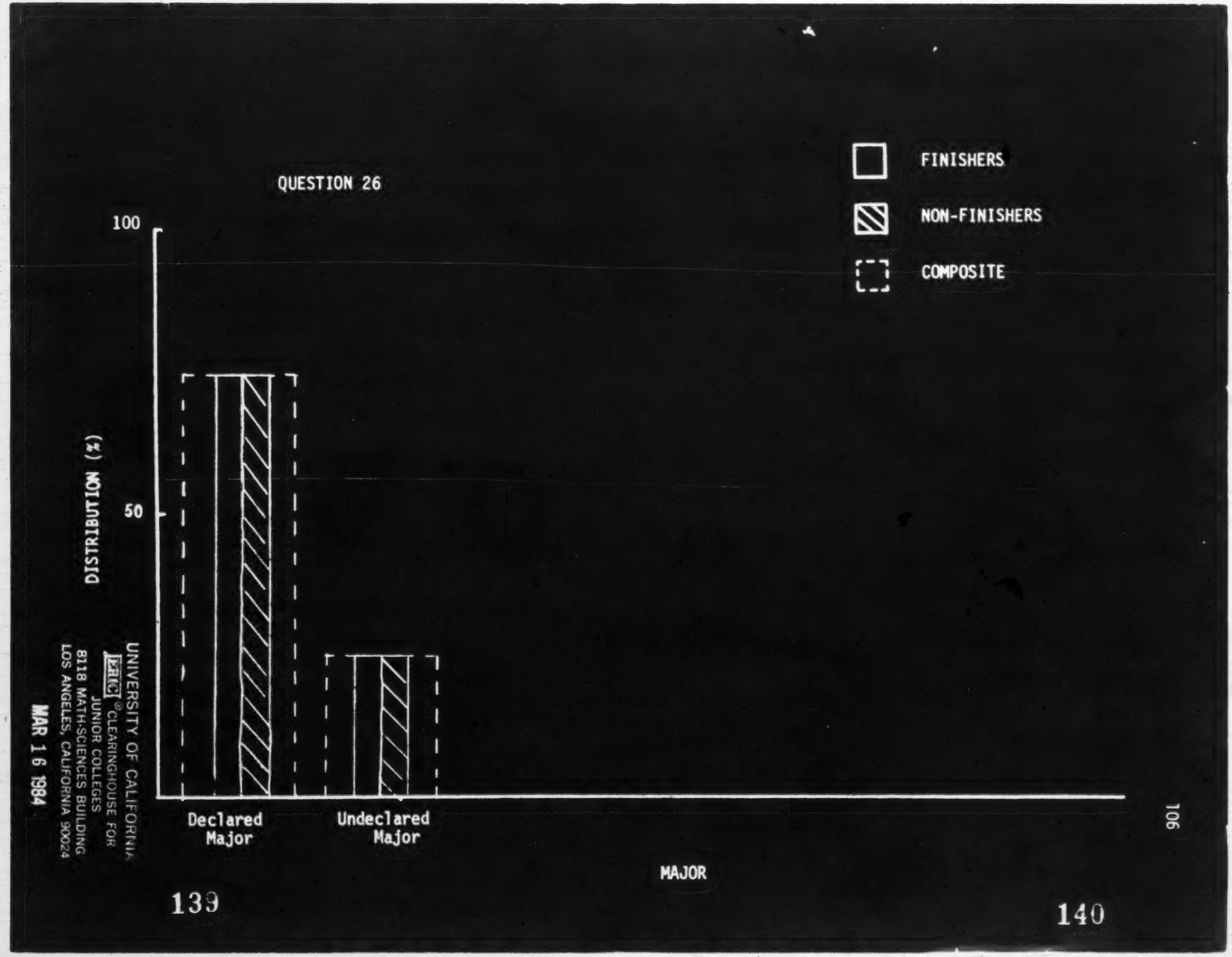

QUESTION 23
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
0-5
6-10
11-15
16-20
over 20
HOURS OF FREE TIME SPENT WATCHING TV
103

133

134


QUESTION 24
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
0-5
6-10
11-15
16-20
over 20
HOURS OF FREE TIME SPENT READING


QUESTION 25
FINISHERS
NON-FINISHERS
COMPOSITE
100
50
DISTRIBUTION (%)
Yes
No
TAKING TELECOURSE WITH A FRIEND/RELATIVE
105



UNIVERSITY OF CALIFORNIA
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MAR 16 1984